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AUDUBON MAGAZINE

A BI-MONTHLY MAGAZINE DEVOTED
TO THE PROTECTION AND PRESER-
VATION OF OUR NATIVE WILDLIFE

Our Motto: A BIRD IN THE BUSH IS WORTH TWO IN THE HAND

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A BOOK-LENGTH STORY

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AUDUBON MAGAZINE




At a Bend in a Mexican River

Visit the northern tip of America's tropical life-zone in this fascinating story by one of our leading ornithologists. This is the first of six installments.

By Major George Miksch Sutton

With photographs by Olin S. Pettingill and Robert Lea




SIXTY THREE kilometers south of quiet old Victoria, capital city of Tamaulipas, one may turn one's car sharply westward from the improved highway, follow a stump- and boulder-studded dirt road a mile or so through the thicket, and find one's self suddenly face to face with an enchantingly beautiful stream—the Rio Sabinas. There is no bridge nor ford. Abruptly, unequivocally, the road has come to an end. One could not drive ten rods farther even if one wished to.

Beyond the river rises a steep, well wooded foothill and beyond that, dark and majestic, the Sierra Madre Oriental. But one's eye returns to the water, whose clear greenness is so restful and friendly, whose reflections are so perfect. A huge blue and purple morpho butterfly flashes along the shadowed bank. Two wild muscovy ducks, glossy black with white patches on their wings, fly heavily upstream. They disappear quickly, for not much of the river is visible. There is a sharp bend or angle here—a *rincón*, as the Mexicans say. It must have been this bend that gave the Rancho Rinconada its name.

I.

The Rancho is not a ranch. It never was. It is hardly even a farm. Patches



Left is a detail photograph of the tough saw-edged *huipilla* leaves which grow waist high. Like mesquite, huisache, yucca and others, *huipilla* is a xerophyte which is to say a plant indigenous to dry areas.

The picture below shows the house where the author and other members of the expedition made base camp near the bend in a Mexican river.

of the rich bottom land were once cleared, to be sure, and three or four small buildings are still standing, but these are all but hidden among the sennas, palmettos and feathery monkey's-ear trees; the fences are buried with vines; and weeds stand head-high in the lanes. At the river's very edge grow gigantic cypresses, centuries old. Back from the stream, in a tangle of thorny bamboo, stand strangling figs and ceibas, and *xoxotl* trees that are alive with green parakeets when the drupes are ripe. Between this fringe of high forest and the ragged old fields where Napier grass still grows, stretches the thicket. Here the trees are scrubby acacias, mimosas, mesquites and *huisache*; but the dominant plant is a coarse, maguey-like xerophyte known as the *huipilla*, or wild pineapple, which stands about waist high and which literally covers the ground. It is incredibly tough. Its leaves are saw-edged. Walking through it without machete, high boots and canvas guards can be sheer torture.

The Rancho Rinconada's only real



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house is one-storied, flat-roofed, made of upright logs, and unpainted. It has five small rooms and a tiny screen porch, concrete floor, and screen rather than glass windows, each with solid, doorlike shutters. One imagines that the end with the two largest rooms was intended to be the front, but what is left of the road leads to the opposite end, almost straight to the little screen porch, so one wonders. . . .

Human beings have lived in this house. I have lived there myself. But the real owners, the creatures that continue year after year to inhabit the

place, are nimble lizards that scamper in and out by way of the not too tightly fitting shutters; sedate scorpions, that crawl from the straw and adobe chinking of the ceiling every night; a colony of termites, whose brown tubular runways lead this way and that all over the white plaster walls or audaciously depend from the rafters; some white-footed mice, perhaps twenty of them counting all the young ones in soft nests back on the closet shelves; and a multitude of minute yellow ants that move in a slow stream to and from a rusty sugar can along a shelf above an old kitchen range, across a stretch of





Map by
Don Eckelberry

On the map, it is easy to see a distinct boundary line between the United States and Mexico, but no self-respecting reptile, bird, mammal or insect pays any attention to the line. The Rio Grande is mighty when full, but a mere trickle if the season is dry. It is no barrier, zoogeographically speaking. Neither is any mountain range, or arid plain, or stretch of forest. Biologically, the southwestern United States and Mexico are the same. Oh, there are differences—such differences as exist between Minnesota and Texas, or between Washington and Arizona, but no differences that are basic.

We're creatures of habit. Asked to describe the Sierra Madre mountains briefly, we would call them a "southwest continuation of the Rocky Mountain system." But why not the other way about? What's wrong with calling them the Mother range from which the Rockies stem? We're quite content with the name "Gulf of Mexico." It's our gulf as well as Mexico's and no upstart is going to make us change its name to "Gulf of Texas" or "Gulf of the United States" despite the fact that our stretch of shore line is longer than Mexico's. We like that grand old name "Gulf of Mexico." It has just the right sound. And we like Mexico. We're getting pretty tired of the long-winded harangue with customs officials at Laredo. We're good and tired of those silly old cannon that stand so pompously along the Big River with their ugly muzzles pointed southward. Why doesn't someone take them away? Nice bronze plaques could be put up in their stead and these plaques might say: "A cannon used to stand here. Those who put it up meant

well. But it spoiled the view and was too devilish hot to sit on, so it was removed."

Ornithologists who motor to Mexico City will note that from Laredo to Monterrey the bird life is much like that of Southern Texas. Mockingbirds, shrikes, pyrrhuloxias and vultures are the common species. But at Monterrey things begin to be different. At Anahuac Park, north of the city, big, noisy brown jays fly about. *They are new.* There is a pretty little gray bird with pink throat—a member of the Cotinga family known as a becard. *It is new.* And those big, strikingly colored Derby flycatchers with their loud "geep," "geep career" call notes are much more common than they were at Brownsville.

The change is nowhere very sudden. No curtain rises swiftly on the tropics. You reach *Ciudad de Victoria* and you've seen funny little crows whose caws are like the twanging of jew's-harps. You reach Mante and you've seen military macaws. You reach Chapulhuacan and you've seen a droll, solemn-faced bird called the toucan. But anywhere in Mexico you may see familiar United States birds in winter—flycatchers, warblers, thrushes—and a good many Mexican birds are very closely related to those of the United States.

wall to a sink, and thence, by way of a drain, to the outer world. There are no flies—it is too dark for them. There are no spiders, since there are no flies. There are neither bedbugs nor cockroaches. But in the little cistern outside at the southeast corner, upside down on the damp lid, live three-inch-long millipeds so fantastically fringed with legs and so startlingly blue that they look as if they had been designed especially for some *Cinco de Mayo* festival.

These several owners of the Rancho's largest house are getting on famously these days. No human being has disturbed them for more than two years. In fine weather the lizards run things to suit themselves from about the time the sun rises over Xicotencatl way until it drops behind the big sierra to the west. They are less noisy and self assertive when the sun goes under a cloud, and they retire completely if it rains. In late afternoon the mice emerge from their nests, move cautiously to the edge of the closet shelves and peer forth into the half-light. No, it is not yet quite time for them to be out. The scuttling sounds of the lizards have subsided—so far so good—but the brown jays are still screaming outside, the lines of light at the windows are a trifle too strong, and the evening flight of the parrots has just commenced.

The mice have not long to wait. A company of chachalacas sets up a fearful clamor in the thicket between the house and the river. *Cha-cha-lac! Cha-cha-lac! Cha-cha-lac!* they call, over and over, beating out a strange, barbaric time. It is their evening hymn. The brown jays move noisily off to the woods, their day of foraging at its end. A hooded oriole sings a final song from the cactus fence, looks sharply about, and sneaks to a roosting place under a palmetto leaf. A

great flock of red-crowned parrots flies swiftly down river. Some of them are very low, only a few yards above the house. *Cray-a, cray-a, cray-ack!* they shriek. The sound is deafening.

By the time the outcry of the parrots has ceased all the mice are abroad. Gaily they skip over the ragged counterpane on the iron bed, back to the kitchen where odorous spots on the floor detain them, back to the cupboard near the old stove, and—carefully now, not by any means so boldly now—out to the screen porch, the woodpile near the door, the cactus fence. It is dark in the house. The scorpions crawl slowly from the ceiling rafters, down the walls. Not a sound do they make. And just as silently the termites, whose massive nest completely fills the space under the table in the storeroom off the screen porch, take up once more their nocturnal slaving.

II

When Sewall Pettingill and I went to the Rancho Rinconada in early March of 1941 we purposed to reside there for several weeks. On my one earlier visit, three years before, I had been struck with the fact that the bird-life was noticeably more tropical than that of Victoria. This discovery had continued to disturb me, to pull at my sleeve, as it were. The Rancho was only fifty miles or so south of Victoria. The highest land between the two districts wasn't much of a divide. Yet here at the Rancho—within a mile or so of the house itself—were birds that at Victoria were regarded as creatures of another world: the purplish guan or *ajol* (pronounced ah-hole)—a big, turkeylike fowl which lived high in the trees; the even larger *faisán real*, or royal "pheasant," an arboreal curassow with incredibly bizarre, recurved crest; the long-clawed or sing-



↑Artist-author George M. Sutton works on one of his deft field sketches to add to a growing collection of bird portraits.

ing quail, which lived among the rocky ledges on the foothill to the west; and a queer, secretive, fluffy-feathered little bird of the dense thickets, the Mexican ant-shrike. The Sabinas valley was, in short, at the northern edge of Mexico's, of the whole New World's, tropical life-zone. At the Rancho one had but to move one's fingers slightly, to press them more firmly here, more firmly there, as it were, to feel the slow, strong throbbing of a mighty heart far away in Guiana or Brazil!

Pettingill had cameras, lenses, tripods, blinds, exposure meters and film—a trunkful of photographic equipment. I had a complete watercolor outfit—fifty large sheets of three-ply paper made up into heavy tablets, a drawing board, brushes and the bat-

tered paint box Louis Fuertes had given me. We had taxidermic tools and supplies and three collecting guns. Two of our students were to join us shortly—Dwain Warner and Robert Lea. With our automobile we would make weekly trips to the city of Mante, forty kilometers to the south, for mail and provisions. To assist us in cutting trails, gathering firewood, building blinds, and bringing water from the river, we would hire old Maclovio Rodriguez, a Mexican who had helped me on my visit in 1938. Maclovio lived in a little shack a few rods from the Rancho house—he and his good Señora, and an assortment of black-eyed grandchildren which varied somewhat from day to day.

Our first task was making it clear to the weeds that we intended to live here. Maclovio began the work with his big machete. Pepe, one of Maclovio's sons, helped for awhile. But it was the third generation, little Ramón, son of Pepe, who finally took over. Ramón was a bit over three feet tall and his machete was practically as long as himself, but he chopped lustily and the weeds were powerless against him. We took comfort in realizing that, with all this vegetation felled, we could walk a few steps in any direction without getting ourselves covered with ticks. Oh yes, the ticks were there, millions of them. It was their season. *Pinolillos* they were called, and they were extremely small. They got onto us in dense masses, a hundred or so at the flick of a leaf, a dark spot that quickly became lighter as it spread out in all directions. They were only baby ticks, or nymphs—the grown ones were known as *garrapatas*—but what they lacked in size they made up for in tenacity. Give the smallest *pinolillo* in Mexico two seconds on the human arm, leg, neck or abdomen and it's there to stay—until,

**Old Maelovio Roderiquez
sharpens his machete.**

filled with blood, it drops back into the weeds, or, hanging on like a microscopic bulldog, it is scratched in two.

Our second task was occupying the house. This was not a simple matter of moving in. Termite runways had to be knocked down right and left and the dark brown nest chopped from under the table, taken to the yard, saturated with kerosene, and burned. A thick layer of dust covered everything. This we asked the Señora to remove. Barefooted, beaming with happiness and competence, and armed with a home-made broom, she set to work. The dust rose in clouds. Not knowing how to say "Take it easy!" in Mexican, we retreated. Watching from outdoors, we saw puffs of dust bursting from the windows and chimney. We were later to learn that the Señora had a calmer mood, one reflecting a deeply-rooted instinct to store up energy today for the requirements of an indefinite tomorrow, but no such mood controlled her now. We helped her drag out a heavy rug. She was gray with dust, as were her several satellites, the grandchildren. With the rug out of the way, she began sweeping again. Conquest of the floor ended with a fierce mopping.

Pettingill and I found the mice. They were in the bedroom closets, the bureau drawers, the one and only mattress. They were pretty and very gentle, so we decided not to evict them too hastily. As for the scorpions, we didn't even know they were there!

We were carrying in the luggage when I heard, off in the thicket a quarter of a mile away, a bird cry that I remembered perfectly—a mellow, three-syllabled whistle. We paused to listen, for Pettingill had never heard a tinamou. Soon the clear, plaintive *who-ee-you* drifted through the win-



dow again. It was like the welcome of an old friend, a plain, unassuming, folksy sort of greeting. My heart swelled as I heard it.

"Here I am," that whistle seemed to confide. "I am a shy, dull-colored *perdiz*, living by myself in the wild pincapple thicket by the river. This particular bit of thicket is mine, has been mine for a long while. I never fly from it, never run from it, for weeks on end. In spring I defend it against other tinamous. Sometimes I whistle defiantly, or make a drumming sound with my short wings, but I am really anything but a pugnacious bird. All I ask is that the thicket be big and dense so that I may have plenty of *huipilla* seeds to eat, shelter from the sun, a refuge from my enemies. I could not exist without this thicket. When it goes, I shall go too; but as long as it is here I shall remain. Here I am safe. The *coati mundis* do not dash through this, my citadel. If a hawk flies over, I crouch and am invisible. If a man walks along one of his trails close by, I stop whistling and listen to the footfalls, but I am not very much alarmed. I fly so little that my wing muscles are weak, but my feet are strong and I can run fast if I have to. Ah, but it is pleasant here beneath the tough, saw-edged, criss-crossed *huipilla* leaves. The day is warm, as yesterday was, as all days should be. I shall not be whistling much more until evening. A dust bath is a good idea. Or perhaps I shall simply stand in the shade, with my stub of a tail hanging straight down. Nothing can see me when I stand perfectly still in my thicket. All that I have just said is perfectly true, it is not, *amigos?* Who-ee-you?"

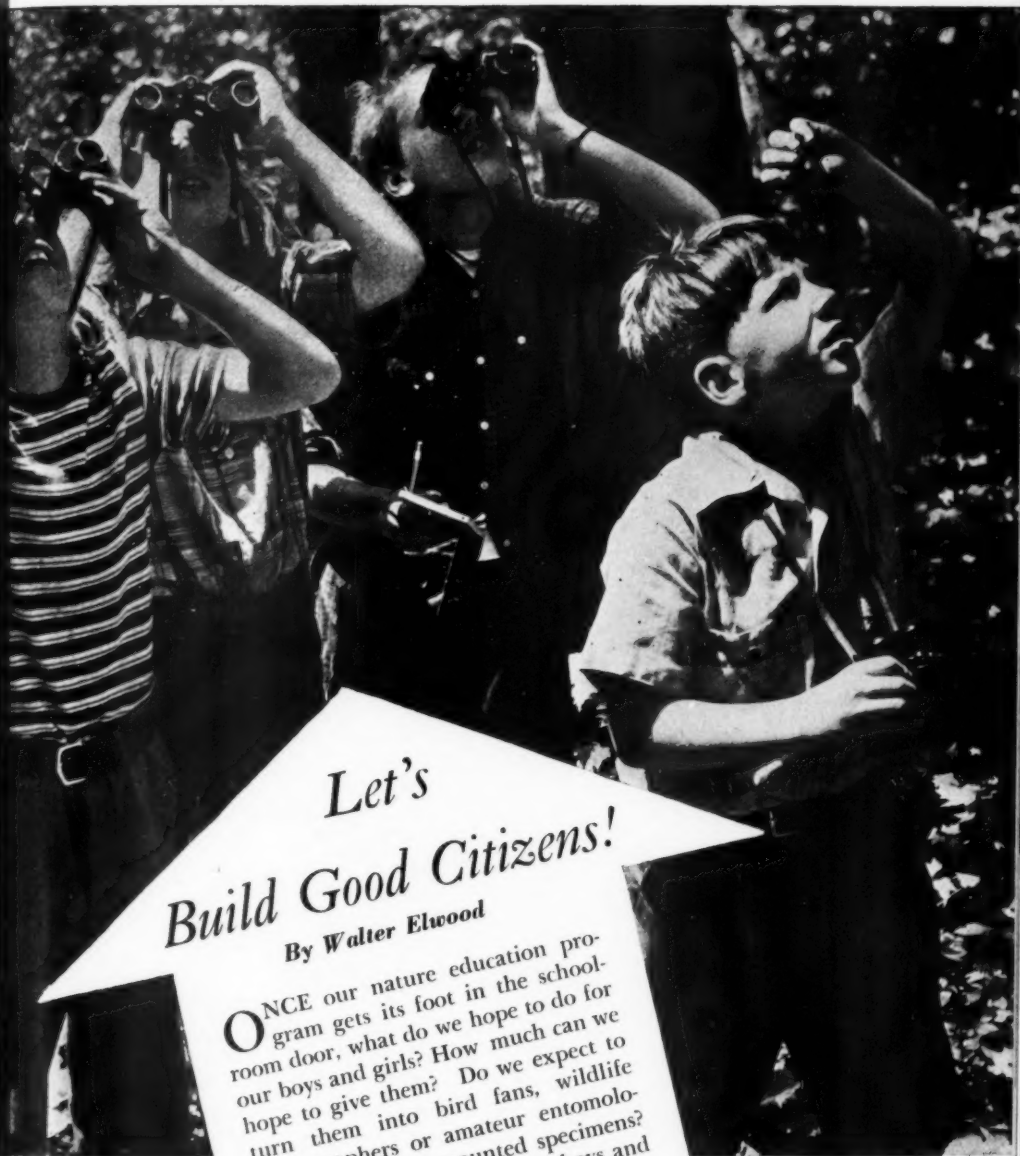
I didn't translate all this for Pettingill, of course. What I said to him was that never in my life had I been so perplexed and tantalized as I'd

been by those Rancho tinamous. Back in 1938 I'd heard dozens of them day after day. I'd plotted their individual territories, sat and lain on the ground, stood behind tree-trunks, climbed high into the branches, crashed through the vile thicket, got myself covered with ticks, in short worn myself to a miserable frazzle trying to see tinamous. As a result of all that effort I had glimpsed two—one that I might actually have caught had I been a bit quicker, for it was crouching under a *huipilla* leaf that I had lifted while looking for a wren specimen; another that I'd shot, more or less by accident, along a trail at nightfall. In the dim light I had seen something moving. It might have been a *coati mundi* or skunk, or even a house cat, but I had taken a chance and a tinamou it had turned out to be.

Pettingill nodded patiently as I continued. He had heard all this before. I had regaled him with stories of the Rancho ever since my first visit. He knew almost as much as I, by this time, about tinamous.

As we hauled in the last of the luggage, a frightful, ear-splitting squawk sounded outside. "Hear that?" I blurted as I ran for the door. "Know what that was?"

The squawk came again, louder this time. There they were, flying majestically down river—a pair of military macaws! Their green upper parts reflected the bright blue of the sky and their underwings flashed yellow. Pettingill's tongue found no clear word to say. There, drifting past us a hundred feet in the air, a shimmering vision in malachite, turquoise and gold, was further evidence that we had come to a magic land. Tinamous below, macaws above: sound by sound, color by color, we were becoming part of the New World's tropical life-zone. (To be continued)



Let's Build Good Citizens!

By Walter Elwood

ONCE our nature education program gets its foot in the school-room door, what do we hope to do for our boys and girls? How much can we hope to give them? Do we expect to turn them into bird fans, wildlife photographers or amateur entomologists who collect mounted specimens?

If we strive to convert our boys and girls into self-propelled hobbyists, we are doomed to many disappointments. To begin with, we find in any group only a very few to whom birds or rep-

Don Echelberry



tiles or insects make an appeal sufficiently strong to turn the individual into a full-going fan. There are many upon whom the bug of bird pursuing, for instance, simply won't take. And in the second place, there is the battle for time. It takes hours, days, weeks to give children the essential groundwork to start them off on a nature hobby.

A nature counselor, working with a small group at a summer camp, can often do wonders in getting his charges well launched because he has the needed hours and continuity at his disposal. I have seen boys at camp, develop into such interested bird observers that the call of an unfamiliar bird, in the chill and early dawn, would lure the shivering half-dressed boys out in excited pursuit. But such opportunities and results are beyond the possibilities of the class-room teacher whose schedule, perhaps, allows only an hour or two a week to nature education.

So, if our hope of making nature hobbyists out of our boys and girls seems not too promising, what then do we hope to do for them?

THE PLEASURE OF DISCOVERY

We hope, among other things, to give them pleasure. This is the easiest part of our work, for children are drawn irresistibly to all sorts of moving and living things, large and small. We hope to open, at least a little way, some doors to various fascinating secret chambers in nature's big house. Such enlightenment is, after all, just another name for science. If we can do nothing more than keep our children's own natural curiosity in good working order, if we can keep alive that glowing sense of wonder with which, like

← The beebee gunner should be shown the several reasons why he has no right to shoot a downy woodpecker.

M. H. Oldham

original sin, they seem to have been born, we can do much to enrich their enjoyment of the earth, which is their habitation.

This does not mean that we bypass the business of identification altogether. It is a matter of convenience to know the names of some things as we talk about them. A name is a handy means of communication. What is more, children *want* to know the names of plants and birds and other creatures.

We try to keep this chore of naming a by-product of nature education. More important than the name of the red-shouldered hawk, for instance, is the fact that it is a mouse-eating hawk equipped with a remarkable pair of eyes and extra-special flying ability. We hope that the interesting activities and important services of this creature or that will help fix its name in childish memories. At the same time, just to help along and to wear away some of the strangeness of names in themselves, we keep posted on our walls some good pictures of birds or mammals or forest trees, our small gallery changing from month to month as the season's topic grows.

AWARENESS OF THE RIGHTS OF OTHERS

While giving pleasure to the individual youngster, we also strive to make him aware that the happiness and welfare of other people are closely tied in with his own; that we are all part and parcel of a community—a community which includes our neighborhood, our town, our state and our nation.

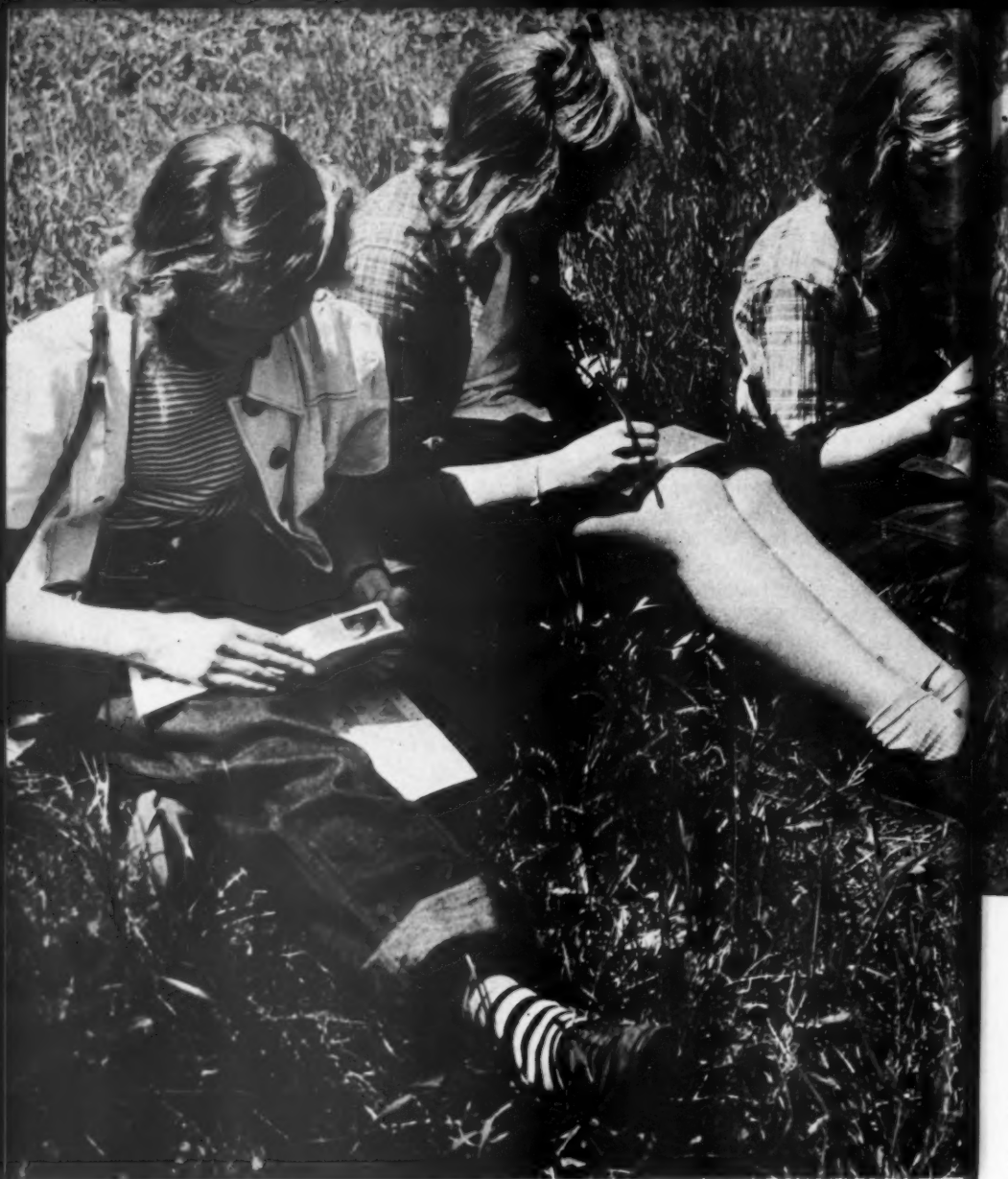
The beebee gunner who brings down a woodpecker is undoubtedly engaged in the pursuit of happiness and in satisfying his personal ego. At the same time he is doing more than that. We must help him see that he is not being fair to bird ally or human neighbor

if he shoots a downy whose presence may be enjoyed by others and whose existence, as an insect eater, is important to the shade trees of the neighborhood. The picker of such persecuted wild flowers as wake-robins or lady's slippers is giving expression to deep-rooted impulses; the flowers are good to look at and he wants them for himself. But he can see, if we help just a little, what he is doing to the beauty of the woods, how he is robbing the trailside and depriving others who come along the trail of the enjoyment to which they are entitled as much as he. He will give an honest answer to the question: "How much do *you* like it when you go to the woods and find that some thoughtless people, or greedy ones, have already stripped the place of its wild flowers? Which do you like better—the trailside which is beautiful with its flowers, or the trailside which is barren?"

What then is the substance of things hoped for in a good nature education program? What are our objectives?

LET'S SPEAK OF BEAUTY

Appreciation is one. If we can have music appreciation, art appreciation and the appreciation of literature in our schools, we are certainly justified in demanding time for appreciation of nature's world with all its boundless treasures. We can go about our appreciating in several ways. Let us start with esthetic appreciation. It deserves verbal expression; it should not be left unspoken or taken for granted. If we are not afraid to use the word "beauty" now and then, if we are not afraid to defend an object or creature simply because it is beautiful, neither will our boys and girls be fearful of using the same word for the same reason. And they will do it without self-consciousness, too.



Again and again I have felt that it meant something when, on a fieldtrip through our bird sanctuary, a child sidled up to me and murmured confidently: "How beautiful it is here!" Or,

"I never knew how nice it was! I love it here." A good look at a scarlet tanager or a goldfinch or a Baltimore oriole brought out heartfelt *Oh's* which came not from seeing in the



Don Eckelberry

Young naturalists tally up their bird list after a morning hike at Audubon Nature Center where more than a name is taught.

flesh something uncommon to their experience, but from the impact of live beauty. The same pleased response is invariably made to some of our colored lantern slides and motion picture shots which happen to be beautiful on their own account. The beauty of form, color, movement and adaptation has proved itself to be a source of happiness which we can easily share with our boys and girls.

Appreciation may take a scientific turn as well. The sarcasm of "isn't

nature wonderful!" which still slips glibly from the tongues of the snobbishly ignorant is unfortunate indeed. By heavens, nature is wonderful! And it is some of this wonder that we hope to reveal to the human participants in it. Multitudes of living things are fulfilling their devious destinies all around us. Their fascinating works and ways of life offer limitless fields of exploration and discovery. We can learn much about their struggles for food and safety. And, perhaps best of all, we can begin to see in company with our boys and girls the great interdependence of all parts of the natural world, how living things depend not only upon such inanimate essentials as sun and soils, water and weather, but upon each other as well for food, for protection and for homes; and as we do this we help our charges to keep in mind that they are very much included among those living things and just as dependent as mouse or owl or oak tree or toad upon the animate and inanimate conditions around them.

PRACTICAL ECONOMICS

Appreciation may be from the economic point of view, also,—a facing of the plain hard facts of our own needs as living creatures. In this approach, we begin to discover how much we need not only our non-renewable resources but the resources of the living world—the renewable resources about which we, if we only wish to, can do so much. Even if we are *homo sapiens* himself it won't hurt our boys and girls or any of us, for that matter, to admit our debt to the living world of nature. Such an admission might awaken in us more common sense than we show at times and a greater fair-mindedness and justice. At least, if we can arrive at an elementary understanding of what living things do for



... he who would protect the robin's nest ...

us and, in some instances, against us, we are working along first-class practical lines. It is the lack of this elementary understanding that accounts for the fate which befell much that was once upon a time the wonder of this continent.

CONSERVATION—A SOCIAL ASSET

Conservation is surely a second objective of our nature-education program because here is where all sorts of social implications enter more directly than ever. Here is where we step beyond the circle of words and into the realm of action, remembering that our boys and girls are not only capable of action but love it. Here is where the challenge comes: "What are we going to do about it?"

Conservation means responsibility, a social asset certainly of the highest worth. To help our youngsters develop a sense of responsibility, to feel that each must bear his share in the intelligent care of nature's gifts, becomes definitely a part of our nature-education program. To help our youngsters grasp the fact that it is up to them to do their part in maintaining our supply of needful resources is only another kind of character training. As nature educators, we have no right to assume that the important obligation of character building can be left wholly to the youth organizations, the Boy Scouts, for instance, or the Girl Scouts, or others with similar fine high aims. Boys and girls who have learned to feel that they bear a share in the welfare of all of us are well set on the road to good citizenship.

CHARACTER-BUILDING

When we help them to remember the rights of other people, too, and to see that the selfish or ignorant destruction of nature's gifts is unfair to their friends and neighbors, in other words,

to their community and country, we are not only building character but nourishing the very roots of all conservation practice.

The boy who fights for the protection of a threatened robin's nest or who sees that a besieged garter snake is allowed to wriggle out of harm's way or who assists in the feeding of snow-bound birds, or who won't stand for the trailside bouquet-making his companions are suggesting, or who helps in the planting of trees and shrubs on public lands, or who does any of the hundred other things—small, helpful but significant things—within the scope of what children can do, is practicing conservation and being a better American for it. And the significance of what he does is not left unnoted by the good nature teacher; it is talked over and given recognition.

Year after year, in my city, we have encouraged our pupils to participate in all such conservation activities; we have discussed definite local problems and made definite suggestions. And the boys and girls have gone forth and done battle far beyond the school-room walls, under the surveillance of their own consciences only. Yes, they do worry about these problems, sometimes getting all hot and bothered about them; and they do try to do something about it.

Defenseless parents are often taken roundly to task and made to mend their ways. A conscientious lady, who had gone miles out into the country to pick hepaticas for an invalid friend, made the mistake of taking along her daughter (a third-grade pupil); mother came back empty-handed because the shrieks of protest she had been compelled to listen to were just too much. Fathers fond of hunting for sport have given up their pastime for the sake of peace in the home circle. Yes, parents as well as peers have



There is no more breath-taking excitement for a boy or girl than to be able to approach a creature of the wild. Children should at the very least be exposed to intimacy with nature. Only a few will become as enthusiastic as these two boys who went to Florida during their vacation to see birds on an Audubon sanctuary, but all can be given understanding sympathy and a social conscience toward nature.

felt the weight of this youthful earnestness.

LET'S BE HUMANE

The question of *humaneness*, too, is an integral part of the nature-education program to the full degree that we spend time in studying all such obviously sentient forms of life as mammals, birds, reptiles, amphibians and fishes, all of the more tangible creatures constantly meeting death at human hands. For this reason humaneness logically falls into place as our third objective.

Children can see the distinction between killing for food and killing for fun. They like to hear about the American Indian's belief which impelled him to apologize to the animal he had slain and to wish its spirit a happy journey along the great star trail. They can see why killing, when it must be done, should be carried out as swiftly and mercifully as possible. They grow to loathe the iniquity of the torturing kinds of death—in a steel trap, or when a wounded animal is not followed up and dispatched, or

Don Eckelberry

coach
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EINE



when frogs for bait are strung alive on a stout twig for convenience sake, or why it is better to stun the trout just caught than to let it slowly gasp itself to death. They can be awakened to feel pity for needless suffering. It is not hard for them to understand that these sub-human creatures cannot speak or plead for themselves—and that a person of good will must speak for them.

FAIR PLAY

The whole issue of fair play and good sportsmanship also enters here. Children quickly see, once it is brought to their attention, the littleness of most of the creatures forever being caught, tortured or killed by the thoughtless; the littleness of these things in contrast to the bigness even of boys and girls. They see, too, that even the largest of animals in our mechanical age are helpless, after all, before the great power of man with his superior intelligence, his thousand aids of communication and transportation, and his abilities to destroy so heavily augmented by his elaborate death-dealing inventions. They can see all this and, as it becomes clear to them, they begin to question the sportsmanship of a contest where the cards are stacked in favor of too-well-implemented man. They begin to see that even the boy pounding a frog to death with a primitive crooked stick is anything but a hero, that there is no sportsmanship in such ill-named contests of wits, and that such a boy, like plenty of his elders and betters, is just a killer, nothing more and nothing less, killing for fun.

Analyzing some of these points with our boys and girls—which we somehow think will be taken care of by someone else—is one important step in the direction of humaneness, for wildlife cries out for a square deal at the hands of man as urgently as do

the domestic animals.

NOT MERE WORDS—BUT DEEDS!

Here, too, our youngsters find many opportunities to transform words into deeds. Because they understand, they exercise forbearance toward those less powerful than themselves; this is simply practice in justice—a quality in which we all need more practice. Beyond this forbearance, there is still something more—the challenge to the courage of boys and girls, for to make their humane convictions three-dimensional does require courage, a courage which will be found lacking in many, the courage to speak up in behalf of the helpless and wordless, the chipmunk, the turtle, the salamander which needs their help, the courage to be merciful in the face of that cheap and searing word *sissy*!

Surely, appreciation, conservation and humaneness cannot be considered ignoble goals for nature education to keep before itself. Some residue of all this will remain in the minds of our boys and girls, despite the countless other demands and interests which will beset them. The bulk of the definite facts they have learned in their years with us will escape them; but many of the impressions made upon them or the feelings which have stirred them will live on, the very foundation stones of the attitudes for which we have worked and hoped.

These attitudes, alone, offer a generous reward for all our efforts: A recognition that nature is a big, big field worthy of respect and interest even if it isn't a hobby for most people; a sense of responsibility for the conservation of our natural heritage; an attitude of good sportsmanship and thoughtfulness toward our wordless neighbors on the part of us who are the lords of the earth. Even this much is a gold-bearing residue—and a high reward.

September Snipe

By Heathcote Kimball

With photographs by the author and his wife



FOR many years we had known Oak Island, where we have our summer cottage, as one of those typical marsh islands which dot the Great South Bay of Long Island, New York. It differed from some of its neighbors, however, in that it possessed a luxuriant growth of bayberry, beach plum, groundsel bushes, choke cherry trees, holly, high bush blueberry, red cedar, poison ivy bushes and blackberry tangles. These covered the low dunes on the south side facing the barrier beach, and grew close to the forty cottages

↑Dr. Kimball waits with the patience all bird photographers must have, for birds to approach the blind.

built by the summer residents. All the northern part of the island, facing five miles of open bay, was flat marshy ground covered by salt hay and intersected by innumerable shallow creeks. While this meadow was well populated by vicious mosquitoes, black-crowned night herons and sharp-tailed sparrows, only an occasional hardy person ever traversed it. Bottomless swamp

holes, quicksands in the creeks, and all kinds of biting insects were too much of a deterrent.

These conditions prevailed until 1933, when the N. Y. State Highway Department undertook the stupendous task of making an automobile road

along the twelve mile stretch of beach from Jones Inlet to Fire Island Inlet. All sand for the elevation and grading of the road was pumped by large dredges from the bottom of Great South Bay. Large pipes to carry the sand had to be stretched considerable distances; and in many places a firm sand base had to be made on which to rest the pipe supports. One of the many pipe lines crossed Oak Island, and we were amazed to find large areas of marsh transformed into a veritable sand beach. Also one quarter of a mile northwest of Oak Island was a new sand island made by the dredge. We knew, from past experience, that such a new sandbar would prove attractive to shore birds and marked this for future exploration.

Here, in July of 1935, for the first time in our memory of twenty-five years on the bay, we discovered a nesting colony of common terns, and promptly gave this uncharted isle the name of Tern Island. Nests, eggs, young and screaming dive-bombing parents dotted the island from one end to the other, but an unfortunate combination of high tides and rains wrecked untold havoc with the broods, and the following summer the colony moved to the higher, drier sands of the outer beach. Swirling tides and winter ice floes throughout the course of several years, eroded the island to a small crescent-shaped sandbar. Now it is not more than 250 feet long and 25 feet wide at its broadest end. Because it is the only sand flat not entirely covered by high tide in this part of the bay, Tern Island is a favorite resting place for gulls, skimmers, terns, snipe, brant and ducks from early spring until late in fall.

It was on one of those crisp, crystal clear northwest September days that we scanned the bay from our cottage porch looking for signs of the fall



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shore-bird migration. The field glasses first focused on the outer beach where surf casters were seen whipping their lures out into the gently rolling surf trying to catch the first fall run of striped bass. An occasional cormorant flew by with its rapid wing beats sud-

denly punctuated by its characteristic planing glide, and giving promise of the migratory duck flights to follow.

Opposite, a greater yellow-legs wades gingerly. When in flight, as below, it gives the ringing call dear to the heart of those who know the sounds of the open places.



The glasses then swept the bay and came to rest on Tern Island far out to the north of the cottage. The southern tip of the island nearly awash by the high tide seemed to be dotted with large periwinkles, but suddenly they all got up and flew off, wheeling first to the right and then to the left, and turning from sparkling snowflakes to dark nearly invisible dots, only to settle again on the point of the sand bar.

"Sanderlings," we enthused, "let's try for some pictures of them."

We hastily loaded the outboard mo-

**How well do you know the shore birds?
How many species in the picture can you identify?**

Below, a willet probes in moist sand for food.

Answers: (All the birds are sanderlings except the gray one in center (red-backed sandpiper) and large bird at right (black-bellied plover).





tor boat with cameras, film, tripods, insect repellent and some old snipe decoys unearthed from a dark corner of the cellar under a pile of old paint cans, rotted bow-lines, rusty barnacle studded anchors and broken oars. Towing our homemade burlap-covered scow blind behind us, we soon arrived at the island. The sanderlings, showing little fear, ran up to windward while we pulled the blind up on the southern tip and staked out the decoys along the water's edge. As my wife won the toss to be first in the blind, I waded off with the boat, anchored it a safe distance away and returned to the north end of the is-

land. By this time the sanderlings were complacently feeding and gradually working toward the decoys. While I was slowly walking them down the narrow strip of sand, a shrill *phoe-oi-ee* announced the arrival of a black-bellied plover, which at my answering call, lit near the decoys. As I had flattened out on the sand, in perfect commando style, at its approach, I decided the present position to be a most excellent one from which to unobtrusively observe the bird life with the binoculars. Of course there was the plover, and lots of sanderlings, but in one feeding group I could see a single small darker snipe with a rela-





→ Sanderlings and the larger knots feed in company where waves wash in food.

← A bird of the salt marsh is the retiring sharp-tailed sparrow. When flushed, it goes buzzing away on inadequate wings and dives head-long into the safety of a salt grass clump.

tively long bill. Closer study showed it to be a red-backed sandpiper. Another cluster of larger birds probing deeply in the sand had white edgings to all their feathers. Those must be knots, the only snipe so marked. I looked up just in time to catch a flock of six birds shooting by over the decoys and apparently not wishing to stop. As they looked like black-bellies, I gave the plaintive call, and all immediately turned to light not far from the blind. But the field glasses showed them to be turnstones, both adult and immature.

Just as the sanderlings, suddenly and for no apparent reason, took

alarm and flew off, I heard a great swish over my head followed by the immediate power dive of a vicious duck hawk hurtling through the air at terrific speed. While all the smaller snipe had hastily departed, the black plover just hunched himself lower on the sand near a boring whelk's shell and then remained immobile, until the waving of my arms scared off the hawk who missed his strike.

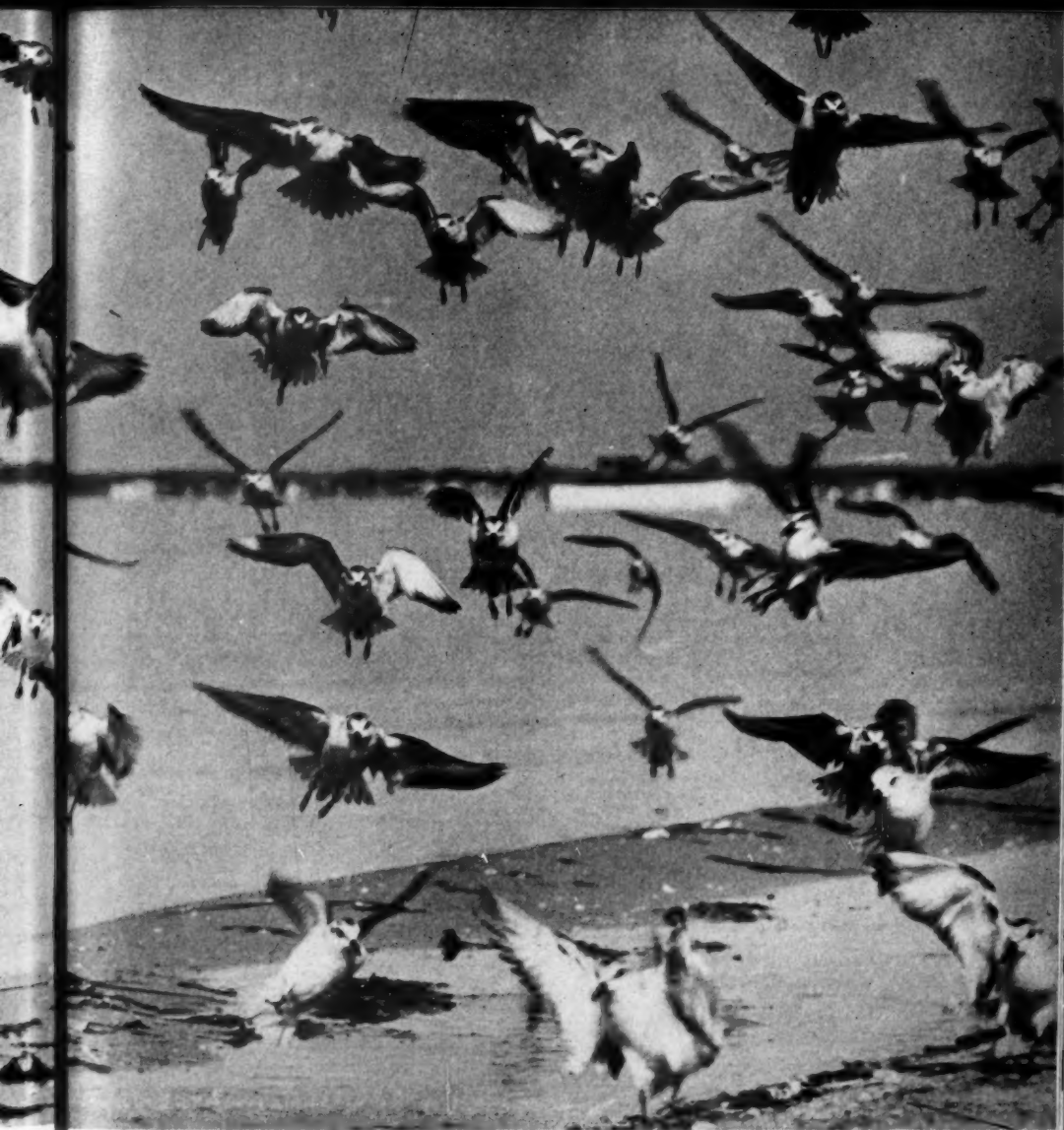
This interruption allowed us to change places, and my wife was now the bird driver while I was the photographer. The blind was an ideal place to study the behavior of the snipe which soon returned. They often completely surrounded it on all sides and could be observed through the various peep-holes at not more than three feet distance. However, a human eye glued to a peep-hole would attract their attention, action would cease and all snipe eyes would peep back with curiosity, wonder and possibly a glimmer of fear. The sanderlings, while quite gregarious, would frequently dispute feeding territory. One with its head down in hunched-back wrath, its legs working like pistons, would goatlike charge another one off its particular feeding hole. Other snipe to make their appearance were greater yellow-legs and willets, and these bigger varieties generally fed off by themselves and did not stay long. The turnstones always moved in a semi-crouch and seldom straightened up. Furthermore if flying by, they would turn and come to the call of the black plover. The greater yellow-legs also would turn quickly and fly close to an imitation of their three syllable whistle. All the birds preferred to feed in the sand left wet by the receding wash of the small waves probing deeply for small sand insects, although we never saw the actual food. The sanderlings frequently de-



↑ A remarkable picture showing the head-on wing action in landing sanderlings.

← Mrs. Kimball is photographing a red-wing's nest in the grass.

AUDUBON MAGAZINE



serted the island for a few minutes practice flight, sometimes drawing the knots and turnstones with them possibly because these last thought the flight to be one of alarm.

The whole day was spent on Tern Island and although we walked the

birds many times, it was impossible to drive them away for any length of time. The snipe had plenty of food, a pleasant resting place and they provided us with enough photographic subjects to make our day most worthwhile.



YOUR TOWN FOREST

Will shelter birds and other wildlife—provide recreation and—sooner or later—lower your taxes!

By Nelson C. Brown

CONSERVATION, like many other good things, should be practiced at home—in your hometown

and mine. There are many ways in which you can work to bring conservation into the realm of action in

your community, but I want to recommend to you the idea of starting a town forest.

A town forest — or community, county, city, school, watershed or memorial forest, call it what you will — is owned and operated by the local citizens. And while its primary objective may be timber-growing for income, or protection of the community's water supply, it embraces practically all phases of conservation. It creates habitats for wildlife, prevents soil erosion and silting of fish-producing streams and rivers, promotes public health by protecting the watershed and by providing outdoor recreation amid beautiful surroundings for the people who live nearby.

Furthermore, the town forest is a venture in public ownership which is an important supplement to our publicly owned national and state forests and parks. In town forests, we enjoy an intimacy and "nearbyness" that we do not always associate with national and state forests; it brings the woods to the people, right to their civic doorstep. And it gives every citizen an opportunity to play his part in the conservation program.

The word forest, itself, is impressive and the idea of starting a campaign for a town forest may sound like a big undertaking for one man or woman or for one club or group of citizens, but there must always be some one human "spark-plug" to get things going. There are several ways in which you can make a start.

To begin with, look around at your community and see what it needs. On the outskirts of almost every village and city is some wasteland—a dumping ground, eroded gullies, cut-over woodlands or worn-out, abandoned farm lands that can be put to work growing timber for the future; lands that can be converted from a disagree-

able economic liability into an attractive and valuable asset to the community. On the other hand, there may be some beauty spot beloved by the townsfolk—a glen, a wooded hillside, an inviting streamside or a stand of wildflowers that is threatened with destruction. Perhaps one of these may become the nucleus of a town forest. In Groton, Mass., the town forest, of which William B. Wharton, a former director of the National Audubon Society, is a guiding spirit, is a wildflower preserve. Many town forests have had small beginnings.

In making your investigations and laying plans, there are plenty of authorities to help you. Consult your local or regional planning board, the city Board of Supervisors or other governing body, the Mayor and—by all means—call on your State Forester. You may find that your state has funds to allocate for such community projects. Wisconsin, for instance, has passed laws providing financial assistance to counties and schools that wish to own forests, and many states in the forested regions will furnish nursery stock free of charge or at very low cost. And remember, you have at your disposal the accumulated knowledge of others who have started and followed through on town forest projects. Your State Forester will help you tap this reservoir of information.

For the town forest idea is not new. It is already hallowed with age and with the wisdom that comes of long experience. It has been practiced in Switzerland for a thousand years, and has spread across Europe where many villages are partly or completely tax-free because of town-forest income. In our country, the first town forest was established in 1710, in the little village of Newington, New Hampshire. This forest of 112 acres has provided fuelwood to keep the residents warm

Luther Chovan



and to cook their food; it has furnished timbers and lumber for the church, school house, town hall and library, and helped to pay off a Civil War debt.

Although the town-forest idea seemed to take firm root in the early days in New England, it did not begin to spread until 1910 when, through the efforts of various forestry leaders, it became well publicized. In the next decade, public sentiment favorable to the creation and operation of community forests resulted in the passage of various state laws providing for their establishment.

By 1930, there were about 1000 community forests in our land. By 1938, the number had increased to

1600, and today, stands at about 2200. Thus, this movement survived the "depression" and even moved forward during the lean years following it, for our citizens began to recognize its value in the conservation of both natural and human resources, since a town forest provides jobs for the townsfolk in planting trees, building roads, fire towers, trails, recreational facilities and other improvements as well as in thinning, pruning, reduction of fire hazards and other jobs associated with forest management. And now that postwar planning is one of the chief preoccupations of all city fathers the town-forest idea is receiving renewed consideration both as a conservation measure and as a

Hal H. Harrison



A community forest is not just a place where trees grow. It is the home of many wild creatures, a place where small rodents (like the chipmunk, left) scamper through the leaves; where spring flowers (such as the white trillium, center) carpet the floor and where birds (perhaps scarlet tanagers, right) sing, build nests and raise their young.

work project to provide employment for the returning soldiers.

Experience proves that the town forest pays in cash as well as in conservation. Seattle has already taken more than a million dollars worth of timber from its 67,000-acre forest which was created primarily for watershed protection, thus liquidating the entire original investment. In Westfield, Mass., the town forest of 5,887 acres, started in 1908, has produced an income of more than \$57,000 in fuelwood, sawlogs, posts and poles. The forest of 3500 acres in North Adams, Mass., yielded an income of \$10,336 in the year 1943, alone. The



Karl and Edna Maslowski




This is a practical article, but would it be impractical to say this view has a value too?

2,531-acre forest in Erie County, N. Y., in 1943, sold \$2,676 worth of Christmas trees. A tract of 800 acres, belonging to Essex Junction, Vt., has paid off its initial capital investment of

\$10,000, with \$3,000 profit to spare so far.

Let's examine a few other records in more detail:

CANTON, N. C.—The human "spark-plug" in this city was the superintendent of the high school. In 1926, working with other local leaders, he



devised a plan to develop the watershed for forest purposes. Five hundred acres which consisted originally of abandoned and partly cleared mountain farms and cut-over hardwood forests have been replanted with trees, some of which had reached a height of from 15 to 30 feet by 1938. High school pupils make additional plantings each Arbor Day. Boy Scouts use the area for the study of woodcraft and forestry. It assures a more pure and even flow of water, and is building up definite values in timber crops.

READING, PA.—Public support was obtained for the purchase of several thousand acres of Reading's mountainous "front yard" after the timber had been removed and the mountain-side gouged out for sand. Practically all of Mount Penn is now municipally owned, and the forested slopes provide a retreat that is within walking distance of the downtown area. The forests contain hiking trails, bridle paths, picnic and play grounds. Hunting is not allowed in the area nearest the city, but fishing is permitted in season on certain portions of the watershed. Thus far, only a few hundred cords of wood in thinnings have been removed. Scores of trees, worth from \$5 to \$10 on the stump, are being allowed to grow into more valuable timber.

DURHAM, N. H.—In 1900, a civic-minded farmer got the town-forest idea going in his community, by donating 80 acres. About 15,000 trees have been planted, some by paid labor, but mostly by townfolk who volunteered their services. The forest is operated for the benefit of the town school system, to demonstrate forestry and for recreation. Some years ago, about 300,000 board feet of sawlogs were cut, yielding \$2,000. Revenue has also been obtained from pasture, and fuelwood has been cut and dis-

tributed among the needy families.

RUSSELL, MASS.—About 20 years ago, an urgent local need gave rise to the town-forest idea in this community. Many landowners could not make a living, and tax income was insufficient to maintain roads and operate rural schools. Some of the families were moved to better land near the village, and the abandoned hill farms converted into a town forest. Starting with less than a 100 acres and an appropriation of \$100, this forest is already paying some income from the sale of cordwood.

DANVILLE, N. H.—A 75-acre church forest was established in 1760 to provide the town minister with fuel, and pasture for his cow. Rev. John Page was the first to use this forest, and records indicate that the parsonage committee met each year to cut up the 25 cords of wood which was part of the minister's annual compensation. The forest furnished him with wood during the Revolutionary War, and while his money depreciated to where one hard dollar was worth 75 continental dollars, a cord of wood was still a cord of wood and gave the same amount of heat. The forest even financed the purchase of the minister's gravestone, and provided sorely needed funds to the town during the war between the States.

The Danville forest has been managed by three trustees for the last 100 years. Timber products have been sold by the cord, by the tree, by a clump of trees and sometimes in blocks of 20 acres at a time. Small sums of forest income have been invested at interest. The total net income obtained for the last 100 years is \$4.45 per acre per year. The income would be greater if part of the money had been used in improving and developing the forest, however.

RUTLAND, VT.—This city of 18,000



American Elm by Howard B.

← A tree with the spirit of a fountain . . .

inhabitants acquired a tract of 4000 acres to assure the community a flow of 3,000,000 gallons of water daily. Extensive reforestation was begun in 1917. In 1927, the State Forester made a detailed plan of management involving a typical multiple-use program, including watershed protection, production of timber crops, improvement of hunting and fishing, provision of employment for local labor and a demonstration of reforestation as well as proper treatment of natural hardwood and conifer stands. More than 5,000 cords of wood from thinnings in the older plantations and from natural stands have been distributed to families on relief. In addition, 2,000 cords of fuelwood have been cut and sold, and sales of sawlog stumpage in three timber contracts have returned \$4,000.

NEWARK, N. J.—In 1900, a private water company serving the city began acquiring land to protect the watershed. The watershed and distribution system were taken over as a municipal enterprise in 1905. The forest has now expanded to 36,000 acres, including about 85 per cent of the total catchment basin. Planting operations were started in 1910. A professionally trained forester has been in charge since 1931. Forest products valued at more than \$23,000 have been taken from the tract. About 10,000 cords of salvage and improvement thinnings have been cut for fuelwood for needy families, and in 1943, sales of saw timber, poles, posts and similar products yielded more than \$10,000. More than 2,000 piles, valued at an estimated \$1.50 each on the stump, were cut for hanger foundations at the Newark airport.

ST. PAUL, MINN.—This city owns about 500 acres of forest land on

ABOUT THE AUTHOR

Nelson C. Brown's interest in community forests dates back to 1908 when as a student of forestry at Yale University, he decided to devote himself to the social as well as economic and scientific aspects of his career. Professor of Forestry at the New York State College of Forestry at Syracuse University, he has appeared before many groups of city and county fathers to plead the case for all types of community forests. He has travelled in Europe six times visiting and studying town forests there and, in 1919, was special adviser to the Czecho-Slovak Republic on management of crown forests. He is author of "Community Forests" a 36-page booklet published by the U. S. Forest Service, and which you may have for your own by sending 10¢ to the Superintendent of Documents, Washington, D. C. He has also written many articles on community forests and several books on forestry.

which some 600,000 trees have been planted. Established primarily for watershed protection, it is used as a demonstration of forestry and for recreation, although fishing and picnicking are not permitted on catchment basins.

PETERSHAM, MASS.—An outgrowth of the town's poor farm is the forest owned by this community. Abandoned for its original purpose, the farm had been neglected and almost forgotten for many years, growing up meanwhile to a volunteer stand of white pine. The idea of converting the farm into a town forest was advanced by the late R. T. Fisher, former director of the Harvard Forest. Originally about 100 acres in extent, it has been enlarged to 165 acres. Had the tract been sold for farming purposes in 1920 when the forest was first established, it would have brought only a nominal figure based on the land

value, the timber not being considered an asset. Since then, the white pine has been sold for \$5,200, much more than the tract would have brought as a run-down farm, and with good management the timber income will increase.

ONONDAGA COUNTY, N. Y. — The county owns one of the 600 community forests located in New York state in which there are still 4,000,000 acres of abandoned idle farmlands that should be converted into town forests.

Although the southern hilly section of Onondaga County was an example of how wasted and valueless good forest land could become through misuse, the county fathers were slow to realize that they could remedy the situation. The State of New York took the initiative, sending a forester to talk before the Board of Supervisors about acquiring some of this cheap land, planting it with nursery stock to be furnished by the State Conservation Department, and offering \$5,000 of state funds for the project if the county would raise an equal amount.

After much persuasion, the Board of Supervisors appointed a Forestry Committee to look into the matter. Chairman of this committee, was a farmer who himself had learned the value of reforestation by planting trees on his own steep lands. With the help of the State College of Forestry at Syracuse University, the committee made a report on the cost and selection of farm lands for purchase with the recommendation that the project be turned over to the Onondaga County Park and Regional Planning Board.

The forest finally got underway in 1930, and about 2,200 acres have been acquired as a nucleus. The forest is well on the way to becoming an in-

come-producing venture, and in the meantime has become one of the most attractive recreational centers in the state. Known as Onondaga Highland Forest, it is now a place of enchanting views where our citizens come to relax, and become better acquainted with trees and songbirds and other wildlife. Already pheasants, grouse, rabbits and even deer have been attracted to this area which now has a protective cover of trees and other vegetation. Although it is sometimes called a park, and fulfills the functions of a park, about 95 per cent of the entire area is devoted to timber growing. The timber, after 40 to 60 years, should be worth from \$200 to \$400 or more per acre for sawlogs, pulpwood, farm posts, poles and fuelwood.

† † †

It takes no great flight of the imagination to envision what the almost three million acres now owned throughout the country as community forests mean to wildlife. Although there may be many a citizen who will support the idea of such a forest for his town or county only after being convinced that it will ultimately lower local taxes, conservationists recognize that these forests have an appeal to be expressed in something far more significant than dollars and cents.

Do you think that it is too visionary to hope that eventually, in memory of the great Audubon, there will be a chain of community forests extending along the pathways of his travels — from eastern Pennsylvania out through the Ohio Valley and across Kentucky to the deep south? An Audubon town forest—a habitat for birds, a healthful retreat for human beings, an area to protect soil, water, plant and wildlife—what a memorial to strive for!

Our LIBRARY Welcomes You

By Edwin Way Teale

With photographs by the author



AT THE top of the stairway which leads to the second floor of Audubon House there is a high, white door. Behind it, clad in many kinds of cloth and leather, stand the close-packed volumes of one of the great nature libraries of America.

They occupy three rooms and nearly a thousand square feet of shelf-space. They include books in an infinite va-

↑Richard Pough, ecologist member of our staff, and Marie Beals, librarian, confer on problems technical.

riety of sizes and colors; books printed in many lands and over a period of nearly 300 years. They record the progress of our knowledge about birds; tell of the discoveries of scientists; preserve records of the great ex-



This charcoal drawing of the late Kermit Roosevelt by John S. Sargent dated July 8, 1917, hangs over the library mantle. Shortly after her husband's death (on active service with the U. S. Army in Alaska) this portrait was presented to the Society by Mrs. Roosevelt in his memory.

Like his father, Kermit was a conservationist and served the National Audubon Society as a director, and as President from 1934-1937. He who fought for his country's wildlife, died gallantly for his country's people.

plorers and of the lives and times of pioneers in natural history.

While this library is for reference only and the volumes are never loaned, its rich resources are always available to members of the National Audubon Society and to anyone interested in birds and kindred subjects. Although comparatively little known outside the membership, the Audubon House library has aided bird-students from all over the United States and from foreign countries as well.

The oldest volume on its shelves, and one of the most interesting, is the pioneer ornithological work of Francis Willoughby. It was published in the days of Samuel Pepys, in England.

Its title page bears the following: "The Ornithology of Francis Willoughby of Middleton in the County of Warwick, Fellow of the Royal Society. Wherein all the birds hitherto known, being reduced into a method suitable to their natures, are accurately described. Published in London, 1678, by John Martyn, printer to the Royal Society, at the Bell in St. Paul's Churchyard." That this pioneer volume is more than a museum piece has been attested to on a number of occasions. Robert Porter Allen, for example, found it of value while doing research work for his extensive monograph on the roseate spoonbill.

Of the more than 6,000 volumes in

the Audubon House library, approximately 4,000 relate to birds. The rest concern such subjects as mammals, plants, insects, conservation, biography and general natural history. Several hundred are in foreign languages, especially French and German. One large volume, dealing with the birds of China, is printed in Chinese. More than forty of the volumes in the library, it is not surprising to note, come under the heading of "John James Audubon."

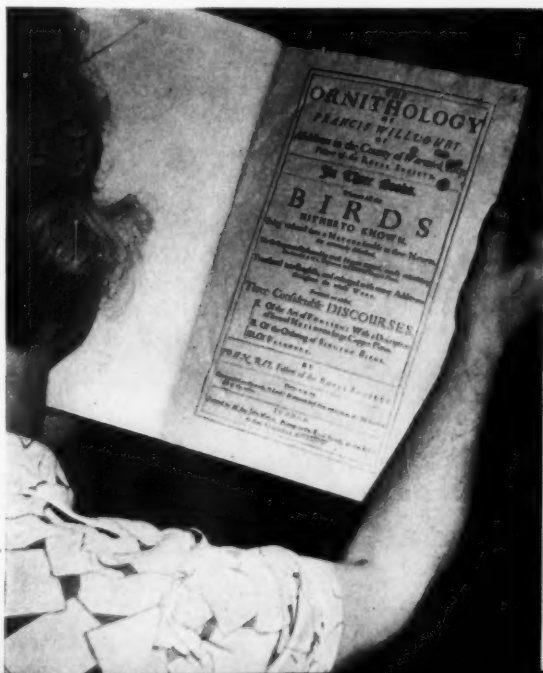
Most of the books, which occupy the 260 shelves of the three library rooms at Audubon House, have been donated by members of the society. The original owners wished the books to have a permanent home where they would be of assistance to others interested in natural history. Among important gifts of the kind have been the presentation of the four-volume set of William Beebe's "Pheasants" by De Forest Grant, the twenty-four volumes of the Limited Edition of the collected works of W. H. Hudson by Mrs. A. W. Erickson and the three volumes of Edward Howe Forbush's "The Birds of Massachusetts and Other New England States" by Mrs. Mabel L. Aiken. Members of the society can assist in increasing the effectiveness of the library, as well as its pleasure-giving possibilities, by adding other books, not already on the shelves, to the collection. Recent advances and developments in the society's program, such as the added emphasis on the preservation of suitable habitats for all forms of wildlife and the opening of the Audubon Nature Center, in Connecticut, have brought a special need for volumes on ecology and general natural history.

Issues of pioneer outdoor magazines are also desired. For, no small part of the value of the Audubon House library lies in its almost complete file

of such publications. *Forest and Stream*, for instance, is represented from 1873 to the last issue published. *Field and Stream* is minus the first few years but extends from 1902 to the present. The files of ornithological publications, *The Auk*, *The Wilson Bulletin* and *The Condor*, are complete. *The Oologist* lacks but a single greatly desired issue, that of May 1934. Foreign ornithological publications and the research and scientific bulletins of the United States government form an extensive file.

Another important and growing feature of the library is housed in a battery of steel files. Under approximately 150 different subjects, clippings from newspapers and magazines are segregated for future use. Here, you can find what has been done in wildlife legislation; what has been said pro and con in regard to the control

Elizabeth Manning of the membership department at Audubon House, pursues the intricate phraseology of Francis Willoughby's pioneer work on birds, the oldest volume in the Audubon House library.





← Visitors to Audubon House know Mrs. Mildred Finney, receptionist, who shows them about the exhibit rooms and sees that strangers are acquainted with the work of the Society. Here Mrs. Finney and Mrs. Beals are hunting reference material in the clippings file. The only mounted bird in Audubon House is this gyrfalcon given by the people of Iceland to the American Red Cross for its work in World War II.

of predators; what science has learned about flood-control and pollution; what has been written about crows and blue jays, hummingbirds or robins. There are envelopes holding clippings about what bird clubs are doing in various parts of the country; others that record what rod and gun columnists are writing; still others that show the advance of nature education in American schools. The clippings, first entered in scrapbooks and later stored in steel files, date back to before the first World War.

Not the least important space in the Audubon House library is a few square inches on the desk of Marie V. Beals, the ornithologist-librarian. This space is the spot where the telephone rests. At least 5,000 times a year, it rings. Sometimes, more than two dozen calls a day—some of them long-distance from New Jersey, Long Island or Connecticut—come in asking for information. And what information!

A fiction writer wants to know what birds nest on the lower limbs of a willow tree. He intends to have one of his characters play a golf ball out of a bird's nest in a tree beside a stream. And, he wants to be sure he has the right bird. The City Editor of a New York paper calls up to say that a woman has reported seeing a scarlet tanager in City Hall Park. Are tanagers around this time of year? A woman with a one-legged canary de-

sires instructions on making an artificial limb of wire.

Another call comes from a detective-story writer. She insists that *some* sparrows must nest in October. If they don't, it will spoil her whole plot! Several inquiries concern books on birds in the various war zones. A radio question-and-answer program wants to find out how long a parrot will live and how many feet of angleworms a robin will eat in a day. A perturbed woman says she has just fed rice to some English sparrow outside her apartment and now they are shaking themselves, with fluffed-out feathers, in the dust. Does this mean they have the stomach ache?

At migration time and at nesting time, the calls mount to a crescendo. The former are concerned with "What bird is this?" and the latter with the care and feeding of fledglings that have fallen out of the nest. So many calls of the latter kind came in last year that Mrs. Beals had instructions mimeographed to send out. More than 100 of these sheets went by mail to those who had telephoned in for information. Year in and year out, one of the commonest questions of all is: How long will a canary live?

In her dual capacity as Audubon House librarian and a kind of lone expert on a continuous "Information Please!" program, Mrs. Beals performs still another function. This is that of Good-Will Ambassador for the National Audubon Society. Through her courteous answers to questions, thousands of persons have become better acquainted with the aims and work of the organization.

Both as a research library and as a clearing house for information, the rooms behind the high, white door at the top of the flight of stairs at Audubon House represent an important phase of the society's activity.



SOARING *and* GLIDING

By John H. Storer

OF all the bird's powers in the air none has aroused more interest and wonder than the ability to soar. To rise into the air on absolutely motionless wings and disappear from sight seems almost like magic.

We know the answer now, but it is sometimes hard to remember as we watch a bird soar, that actually it is coasting downhill on a current of rising air. The speed of its rise is the difference between the rate at which the air is rising and the rate at which the bird is sinking or gliding downward. The only known exception to this is dynamic soaring where a bird is able to use its momentum for a short distance to carry it upward.

We know something about the air currents that a bird can soar in. The wind striking a sail, the shore line, a mountain side, will rise to get over it. A bird can soar on this rising "obstruction" current. Some types of land will heat the air over them faster than others. A bare field or patch of

sand will be warmed by the sun and heat the air above it more quickly than a forest or water. The heated air will rise and a bird can soar on it. This rising, heated air or "thermal" may be in the form of a huge bubble or it may be a solid column.

An eagle or buzzard soaring upward in great circles is spiraling within the area of a rising current.

I once spent a week near a wood ibis rookery when the young birds were learning to soar, and they did some beautiful sketching of the air currents. Throughout the day there were usually a few birds flying over the nearby everglades, apparently being closely watched by their mates at home. As soon as one of these fliers found a rising air current and started to soar, there would be a general scramble from the rookery to join it. A hundred or more birds would hurry over, just above the tops of the mangroves, and start flying in circles, evidently feeling for the rising air. As they rose higher where the lift became stronger, their flapping would slow down, become intermittent, then stop entirely and the birds would spiral upward with motionless wings.

Sometimes, apparently in a bubble of rising air, they would lift in a closely packed bunch, swirling and swinging across each other's paths like a swarm of bees. Again there



Turkey Vultures
by Allan D. Cruickshank

seemed to be a vertical pillar of air current, marked out by a towering column of soaring birds. Usually there was a strong wind blowing and the column of birds would tilt downwind, the entire column moving along with the wind. As the birds reached the top of the column, usually tiny specks against the clouds, if not out of sight entirely, they would come coasting back in groups of twos and threes and dozens, wings motionless, holding their formation perfectly like a group of planes. Over the rookery they would drop their legs, half close their wings and raise their alulas high, evidently braking their speed to cut lifting power to drop to the rookery. Occasionally one, more venturesome, would try a headfirst dive making rapid half spins as it shot earthward, always levelling off two hundred yards or more above the surface. Comparing the wood ibis wing spread of about five and a half feet with the size of the air columns usually suggested a

diameter of forty to one hundred yards, the height varying with the height of the clouds. Occasionally in a strong wind a few birds would sail horizontally dead against the wind. I have seen gulls sailing in this same way, dead against a strong wind, making fast progress and holding their altitude with motionless wings. It looks uncanny, but has a very good reason.

A very interesting study has been made by Mr. Alfred Woodcock at the Woods Hole Oceanographic Institution. It seems to bear out some experiments that were made in England by Chandra, Graham and Mal where smoke was used to show the outlines of different kinds of convection currents over a surface with a steady and uniform source of heat that would correspond to the ocean surface.

The studies show that the size and shape of the air currents change a great deal with changes in temperature and wind speed, but the general pattern looks a lot like a great honeycomb made up of closely packed hexagonal cells or columns of rising air marked out by the smoke. Each column is a separate circuit of air motion, sometimes with the air rising in the center and moving down around the edges, at other times just the reverse—down in the center, up around the edges. As the rate of air flow over the heated surface was increased, corresponding to an increase in the wind over the ocean, these cells began to tilt in the direction of the wind, finally lying flat and rotating about their axes. Each cell rotates in the direction opposite to its neighbor, one clockwise, the next counter clockwise, so that their sides where they adjoin move in the same direction—down on one side, up on the other.

Mr. Woodcock's studies of soaring herring gulls, extending for many miles off shore, seemed to indicate

patterns of air currents very much like these experimental currents.

Through the summer when the air over the ocean is warmer than the water, no gulls were seen soaring off the New England coast except in the obstruction currents over a ship.

In the fall, when the air became colder than the water, soaring began when the air became two degrees centigrade colder than the water, 3.6 degrees Fahrenheit colder, and with a wind velocity of at least one-half meter per second, a little over one mile per hour. Until the wind reached a velocity of seven meters per second, about 15½ miles per hour the soaring was always in circles. Then, providing the air was cold enough, it would begin to change. With the air more than four degrees centigrade (7.2 Fahrenheit) colder than the water, and the wind over 15½ m.p.h. some of the gulls would begin to soar in straight lines while others still circled. As the wind increased to about 19½ m.p.h., the circle soaring decreased markedly, stopping altogether at about 24 m.p.h. From then on the soaring was only in straight lines, suggesting that the air pattern had changed from the columnar cells to the horizontal rotating cells, with the birds soaring along lines of rising air between two rolling cells. At 28 m.p.h. the soaring stopped entirely, showing that the air patterns broke up at this speed. This accounts for the straight line soaring of the wood ibis and gulls mentioned earlier.

By comparing the positions of gulls soaring in the same air cell at different heights, it was possible to estimate its size, shape and direction.

At low wind speeds the rising air columns were nearly vertical, and continuous, not just rising bubbles. As the wind increased, the columns would tilt in a downwind direction

until finally they apparently changed into the horizontal rolling cells.

The soaring gulls showed that both types of cells started within 100 to 300 feet of the ocean and extended upward to considerable heights.

Gull altitudes were measured with a range-finder up to 2000 feet but they were seen much higher.

With wind velocities as high as 28 m.p.h. gulls would soar past the ship, to windward, on motionless wings gaining altitude and disappear in a few minutes.

In the *Auk* for April 1940, Mr. Woodcock mentions two especially interesting observations: during a cruise to Bermuda in January 1939 the boat went through an area of cold air six degrees centigrade colder than the water. Gulls were soaring in the air during the whole day. Then followed a day with warm air, warmer than the water, and there was no soaring. The gulls either sat on the water or rode the up-currents off the ship's sails. There followed two cold days and again the air was filled with soaring gulls, even with a wind at 28 m.p.h. Then two warm days again grounded the gulls, and there was no soaring. Again he speaks of watching gulls riding on the up-currents off the boat's sails, then leaving these currents, and flying, with active flapping, apparently in a search for air currents rising from the water. When an up-current was found, they would fly upward with it until they reached a point where it was rising fast enough to lift them without active flight, and they would start to soar. They could detect the start of these currents just a few feet above the water, but would have to fly upward from fifty to two hundred feet before the current was strong enough to soar on.

There is an interesting difference between the gliding birds of the ocean

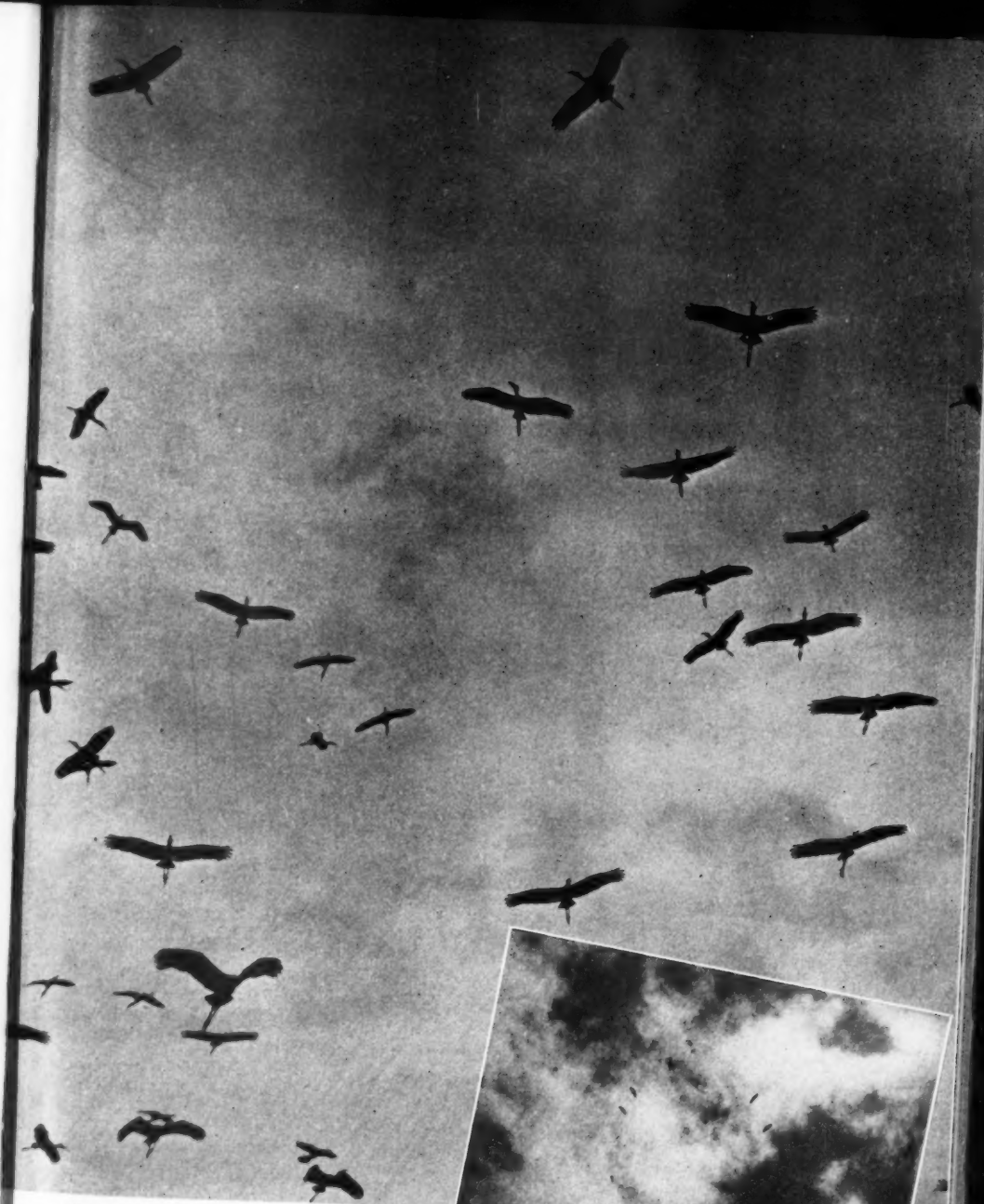
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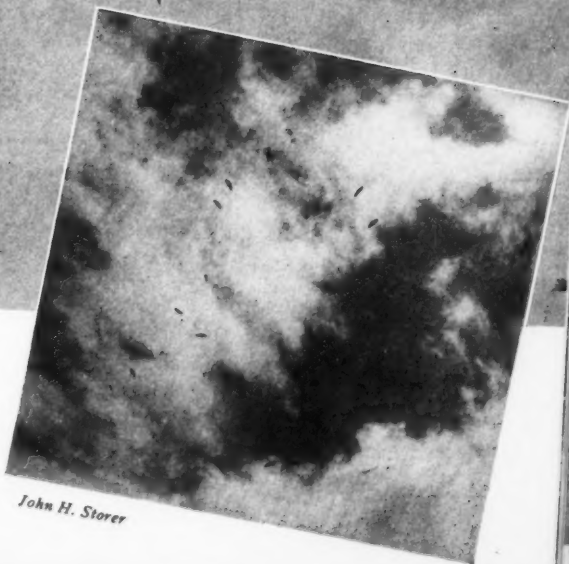
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Allan D. Cruickshank

Above, ibises, anhingas and an egret feel for the rising air currents. In the small picture a group of wood ibises, seen from below, outline the circumference of a "thermal," a rising current of warm air. The birds in the lower corner have started the long glide back to their rookery.



John H. Storer



John H. Storer

Roger Tory Peterson

The black-footed albatross, an ocean glider, has a wing design very different from vultures and condors, overland gliders. After taking off it skims along without a wing beat (inset).

and of the land. Most of the sea gliders, such as the albatross, frigate birds and gulls have long narrow pointed wings, the most efficient wing for gliding. With birds this type of wing seems to be associated with low level gliding. The sea birds can soar to great heights when conditions are right but they seldom need to. When gliding is possible at all, they can glide for long distances and do all their traveling near the ocean surface.

Land birds that travel by gliding must depend on very localized air currents, so they must climb to get the last possible foot of elevation for

the long coast to their destination or to the next rising air current that will give them another lift. These birds, almost without exception, have broad wings with deeply slotted tips, just the opposite of the sea birds. This type of wing is generally considered by aerodynamic engineers to be less efficient both for gliding and for high soaring, and yet the best soaring birds, the condors, eagles and buzzards all have them. The condor, soaring master of them all, has the deepest slots; about one third of the entire wing spread is slotted. Among the air currents sweeping up the slopes of its

mountain home it can sail for hours, spiraling upward or gliding on a level course without ever moving a wing. It can vary the width of its slots but, except in a fast downward glide, it seldom closes them.

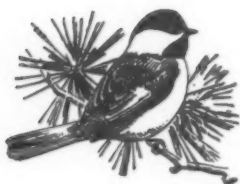
The tips of a soaring bird's wings are as deceptive to watch as a sleight-of-hand artist. The feathers are slightly banked, one above the other, highest in front, lowest behind, so at the proper angle from below and behind they mask each other and appear to be closed, only to open out again as the bird swings through its circle to show them from another angle. Always remember this in watching a soaring bird.

The wood ibis is a sort of link between the land and sea birds. It usually flies with a series of flaps and then a glide on its momentum, with pointed wing tips and slots closed until its speed drops and it must flap again. But when the wood ibis starts to soar, it opens its wing tip slots like any other land soaring bird. When a bird can use either type of wing at will and deliberately chooses the slotted type for soaring, nature must have a reason. A number of reasons have been advanced other than straight gliding efficiency. The slotted tip probably gives better control of balance among the treacherous mountain currents. A condor can pirouette and turn on a pin point when it slips out of its rising current, but so can an albatross. The slots help a bird to bank at low speed when it spirals within a narrow air column, but the bird uses them for straightaway soaring also. The bird may use them to "spill" lifting power, when its air column is rising too fast, but it uses them too when it has just barely enough lifting current to keep it going. The slots may be a compromise with the need to fly, allowing the land bird a somewhat shorter

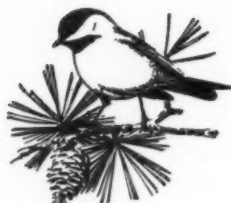
and more manageable wing, yet the condor is probably as poor a flier as the albatross. Each depends almost entirely on gliding for its travels. One may wonder if it is just possible that the soaring bird still has something to teach the human flier.

One of the most spectacular kinds of soaring, seldom seen, is dynamic soaring, using the bird's momentum to lift it. There is a spot in the California mountains where several families of red-tailed hawks nest in the face of a long cliff at about 5000 feet elevation. Not far away a mountain valley lies open to the prevailing west wind. A strong current of air rises from the hot floor of this valley, helped by the drive of the wind. The red-tails hunt over the valley floors far from their home cliffs, but seldom make the effort to fly up the long climb back to their nests. They will sail downwind toward the rising air current, working up a terrific speed, then swing sharply around into the rising air column, facing up wind with motionless wings set at a very high angle of attack, apparently near the stalling point with slots wide open, to build up a tremendous lifting power and they shoot upward almost as if they were riding a giant elevator. Two circles within the air column will boost them 2000 feet or more and they can easily coast across to their nests.

Here, from a seemingly calm atmosphere, the hawk has found the power to build up a terrific forward speed and then to burst out into a skyward joy-ride, all with hardly the motion of a feather. If we begin to look into the air currents that supply such power, and the forces that cause them, we will find ourselves embarked on another of the fascinating side interests in store for those of us who would understand bird flight.



The Director Reports to You



YOUR Society has been laying stepping-stones-to-conservation that have vast significance for the future! Last month we reported to you the launching of the first summer sessions at the Audubon Nature Center in Greenwich. Those sessions are now a matter of actual history, the last course for this year having been completed on September 2.

This month, we announce the establishment of the second Audubon Nature Center—with headquarters at the San Gabriel River Wildlife Sanctuary at Whittier, California, just thirty minutes ride from downtown Los Angeles.

This California Center has long been an integral part of a plan which envisions a whole network of nature centers and camps throughout the nation. Our members and friends in southern California have given this project, in their community, their full support. Due credit should be given to Mrs. J. H. Comby, acting as representative of your Society, who has stuck through thick and thin to the promotion of this sanctuary and center, and to the directors and members of our affiliates in southern California who have backed her so wholeheartedly. Special mention should be made of the Los Angeles, Pasadena and California Audubon Societies and of the Southwest Bird Study Club.

Like the Center in Connecticut which was two years in getting under way, this Center in California cannot

put through its program overnight. However, suitable acreage and buildings immediately adjoining the sanctuary already have been acquired, and a resident representative will soon be stationed there to oversee building alterations and development of the grounds and exhibits, and to lay the basis for initiation of nature courses which will follow the same general lines of those offered at the Center in Connecticut and at the Camp in Maine.

CONSERVATION STRATEGY

To borrow a phrase from the military, our Audubon educational spearheads have now thrust clear through to the Pacific Coast, temporarily bypassing the great communities of the Middle West. But that is not to say that we have ignored the states in between, nor those to the north or south, for our friends there are equally aware of the educational needs and just as desirous of getting Audubon Nature Centers and Camps set up and maintained in their communities; the fruit is ripening and the Audubon Wildlife Screen Tour program helps keep interest at fever pitch.

To borrow again from the military, have you ever tried to picture the Battle of Conservation by the methods used in the war maps which we watch so anxiously in our daily papers? It's a fascinating exercise and a good way to compare our strategy with that of the professionally trained

generals. You will find that your map shows a whole flock of arrows pounding at different points along the conservation fronts. Sometimes your arrows rush straight through toward an objective, sometimes they form pincers, only gradually closing around the problem to be overcome; and sometimes your arrows obstinately refuse to be pushed forward at all.

Good strategy, alone, however, does not spell victory. With the military, good strategy must be backed up by multitudes of trained men, fully equipped with the instruments of warfare. With the conservationist, good strategy must be backed up by multitudes of citizens, fully equipped with knowledge.

This is a lesson which your Society learned long ago. Our members have fought in many a heated campaign, and on a number of different fronts simultaneously. While many cam-

paigns have been won, we failed as often, not only for lack of enough warriors adequately equipped with knowledge and rallied at the point of attack, but for lack of sufficient coordination of efforts on the part of the many elements comprising the support of our cause. We know, now, the supreme importance of functioning educationally, and on a number of different educational levels at the same time. Although our educational program cannot operate in full during the war, you might keep in mind that it has five powerful prongs—Junior Clubs for children, a nature camp for adults, a nature center (now two) where we can teach on both the junior

Members of the Los Angeles Audubon Society birding in the San Gabriel River Bird Sanctuary. Second from left is Mrs. J. H. Comby, guiding spirit of the new Nature Center.





H. Lee

← For migratory waterfowl, new dangers.

and adult levels, wildlife tours that take people into the field, and screen tours that bring the field and all its vibrant life, color and motion right to the doorstep of the city-dweller.

WATERFOWL REGULATIONS

The news is out as to this fall's migratory waterfowl hunting regulations! The season has been extended another 10 days, to a total of 80; and a special additional bag limit of 5 has been provided for mallards, widgeon and pintail, the three most abundant species. These two liberalizations, according to official announcement, have been made as a wartime emergency measure in an effort to meet the local crop damage situation more satisfactorily than through last year's arrangement. Last year, there was great abuse of the special permits granted for unlimited killing in crop damage areas. It remains to be seen whether this year's liberalizations will meet the need for which it is said they are designed. We are keeping our fingers crossed!

It is said that, if the season were closed on all except the three most abundant species, it would not be fair to hunters in those parts of the country in which they do not happen to occur commonly. It remains true, however, that special provisions could be made for legal killing of other species common in the few areas in which the three are scarce, such as in the New England states, where the legal killing of black ducks might well be permitted instead.

And, by the way, there will be a lot of confusion in many places because of the special bag limit on "mallards" inasmuch as Florida black and mottled ducks are commonly known as "black mallards," whereas the lib-

eralization applies only to the true mallard or "greenhead."

The increase to 25 in the bag limit on American and red-breasted mergansers is an unpleasant surprise. The government puts this not so much on the ground of their increase as on the claim that they have become a menace to fish propagation. True, these birds eat fish, but what of it?

If we cannot devise ways of propagating fish without having to destroy other wild animals that eat fish, it is a fair question whether the artificial propagation serves a useful purpose! It is but another illustration of man's too common desire to kill that which feeds on what he himself wants to eat—with the net result that he tries to kill both!

It seems to us that there is something wrong when the federal agency primarily responsible for wildlife protection allows itself to get into the position of advancing, as a justification for an increase in bag limit on a game bird, the claim that the species is a menace to artificial propagation of fish. We thought the principal function of the Fish and Wildlife Service was to protect wildlife rather than to find excuses for killing it.

LIVE DECOYS

Although the government seems to have given way to demands by hunters in some instances, there is one subject on which it is standing pat. There is nothing in the new regulations to grant the use of live decoys or bait, in spite of the continued pleas of waterfowl hunters in numerous states for the legal restoration of such practices.

However, conservationists will have to make themselves heard in the proper places about this matter, for the Department of Interior might be overridden by Congressional action. In our last issue, we called attention to Representative Simpson's bill

which would legalize the use of live decoys. Of still more significance is S 1986, by Senator Clark of Missouri, which would legalize the use of six live decoys and provide, also, for the sale by the federal government of \$1 permits for their use. While Senator Clark was recently defeated in the primaries, he will continue to function as a senator during the rest of the calendar year, and is apt to seek to press this legislation. The pump-primer back of both of these bills is Senator Lucas of Illinois. It is hoped that our members in Missouri will advise Senator Clark of their opposition to the passage of S 1986 and that our members in Illinois will advise Senator Lucas of their opposition to both bills.

INCREASED PROTECTION FOR FLORIDA

Since the establishment of the Everglades National Park has been stymied by an oil boom, your Society may continue for some time to be the chief protector of wildlife in the great expanse of glades, lakes, rivers and bay waters in southern Florida. Audubon wardens patrol the vast coastal area from the town of Everglades south around the capes into Florida Bay and, also, the shores and waters of Okeechobee Lake and the adjoining Kissimmee Prairie. To do a bang-up job, however, would involve doubling the number of wardens and providing them with suitable equipment.

Help in financing an expanding protection program has come from the Humble Oil and Refining Company, as a result of your Director's appeal to it for a contribution to our Sanctuary Fund. This appeal was based upon your Director's long-held opinion that companies engaged in exploiting natural resources should make contributions to be used in conservation work.

No string, whatever, has been at-

tached to this contribution other than that it be used for the express purpose of expanding our warden patrols and other wildlife protection services from Okeechobee City south this fiscal year, and the Society is entirely free to take issue at any time with the policies and practices of the Humble Company, or of any other oil interests.

The contribution, in our opinion, has been made in a fine spirit and is evidence of a sincere desire to aid wildlife conservation in south Florida. The action by this company represents a pioneer move on the part of companies and individuals exploiting the nation's natural resources to aid in good measure in their conservation.

While in Florida recently, your Director visited the current oil drilling and pumping operations being carried on by Humble south of the Tamiami Trail and at Sunniland. From the wildlife protective standpoint, it was gratifying to find that the risk of blowouts, so harmful to soil, water, vegetation and wildlife, is negligible, as no underground gas pressure of consequence has been encountered so far; and that all salt water is being pumped back into the one producing well, despite the absence of any state law or regulation so requiring.

Your Director was privileged to confer with the Governor and Governor-

elect of Florida, both of whom are very much aware of the need for early enactment of legislation by the state to properly control oil exploratory, drilling and producing operations.

The existing 90% federal tax rate on excess profits of corporations is an exceedingly powerful stimulant to wild-catting, that is, drilling for oil beyond proven limits of producing fields, as, in effect, the federal government pays 90% of the cost. Revision downward of this tax rate on corporations would probably soon bring extensive exploration and drilling for oil in Florida to a halt; that is, provided there is no oil in paying quantities theretofore found.

NOTE FOR POSTERITY

When Jimmie Davis took office in Louisiana recently, he inherited one of the most spectacular conservation problems in the nation. His state contains the last remnant of a magnificent primeval forest that was once widespread, and this forest remnant shelters the only known ivory-bills. If Governor Davis succeeds in saving the trees and the birds, he will win the undying admiration of the conservationists of this and succeeding generations.

Although this problem should have been solved years ago, recent events



seem to have conspired to pave the way for action by the new governor. His predecessor had made commitment to spend \$200,000 on the purchase of a portion of the Singer Tract still containing primeval timber, and the federal government had evidenced willingness to lease, with option to buy, buffer cut-over areas in order that a wildlife refuge might be permanently set up. Governor Davis has expressed sympathetic interest and conservationists throughout the country await his decision with eager anticipation.

As the governors of the other three states bordering the lower Mississippi (Tennessee, Arkansas and Mississippi) have previously well said, the establishment of this refuge is a matter of great import to the South and to the whole nation.

THE CHANDELEURS

Miles off the eastern shoreline of Louisiana lies a chain of little islands known as the Chandeleurs. This chain stretches on down through Curlew and Gosier to Breton Island. Mere sandy flats, they are only sparsely covered with vegetation, but each year they harbor nesting congregations of countless terns, skimmers and pelicans. Through the courtesy of the Louisiana Department of Conserva-

tion, your Director recently flew over these islands in a little Aeronca, equipped with pontoons. The time was mid-August, and many thousands of young brown pelicans were still in the nests on the North Islands, but other bird-nesting concentrations had dispersed, as the season was over.

Some of the islands in this chain have the habit of playing the game of now you see me and now you don't. No doubt, the tops of some islands are washed away in a storm, so that they remain submerged for a time, while others build up to greater proportions, or new ones are created. This misleads the map-maker. Various islands shown on a map made at one date do not appear on a map made at a different time. And so the status of many of them became confused. Were they part of the federal refuge earlier established—or were they state land?

Back in 1904, an Executive Order of President Theodore Roosevelt established a portion of this chain as a federal wildlife refuge. In the 1930s, the refuge was enlarged. A year or two ago, when the state of Louisiana became especially interested in the potentialities of oil development, the General Land Office was asked to look into the matter of titles to the islands. The Land Office ruled that many of them, including a number chosen by the birds, were not properly included in the federal refuge as they had not been in existence at the time that Louisiana was admitted to the Union.

With the fullest cooperation of the Louisiana Department of Conservation and the U. S. Fish and Wildlife Service, this situation has been thoroughly aired. Both the state and federal governments have made commitments as to action—either the state will set up a refuge and assume full responsibility, or it will accept the

Must the antelope, deer, elk and other animals of the National Parks expect ever increasing competition on their range from livestock?

Photograph by Paul Fair

offer of the federal government to post and patrol. To avoid confusion in the future, refuge limits will be defined by latitude and longitude, or by township and section, rather than by naming particular islands that may refuse to stay put.

GRAZING UNLIMITED

This war seems no different from any other as regards the growing pressure of livestock interests to seek breakdown of restrictions on the private use of grazing areas within our national parks and monuments. Audubonites and other conservation-minded folk throughout the land should do what they can in their own states and communities, and by representation to their state and federal representatives, to halt this trend!

Experience in World War I demonstrated that, as result of relaxation in restrictions at that time, the addition to the nation's food supply was negligible while the damage to the park areas was serious. There was much pollution, trampling and destruction of plant cover with consequent erosion. Special wartime privileges then granted were not completely eliminated from the parks until ten years after the end of that war.

At the present time, there continues to be some grazing by domestic livestock within the national parks and monuments. Mr. Drury, the Director, reported recently, that on some 1,300,000 acres in 43 areas there have been about 20,000 cattle, 74,000 sheep, and more than 1,500 horses as well as several thousand head of pack and saddle stock. An increase of 20% in cattle and 10% in sheep was authorized in 1943 as a contribution to the war effort. Nevertheless, livestock interests continue to press for additional privileges.

Representative Clair Engle of Cali-

fornia has introduced H.R. 5058 "to provide for the issuance of grazing permits for livestock in the national parks and monuments." Your Society, believing that the National Park Service should be sustained in its efforts to maintain its standards and with knowledge that the importance of the potential grazing lands within the park system is negligible from the standpoint of the war effort, is opposed to any such policy as is embodied in the bill introduced by Congressman Engle.

Fortunately, interests in California, through the agency of an advisory committee, have carefully examined the facts in this situation and have gone on record in opposition to the Engle bill. After a thorough survey on current forage resources, marketing opportunities and the program of war food agencies, the committee concluded that opening of national park lands to grazing would not be justified.

40TH ANNUAL CONFERENCE

That good old Audubon get-together time comes this year on October 14-17. Come one—come all—IF you live close enough! Limitations on civilian use of transportation facilities means that some of you can be with us only in spirit, but we'll do our best to report to you later on all activities—both serious and merry! A program will be mailed to all members and subscribers sometime in September, including details about a special meeting of representatives of branch organizations and affiliated clubs, visits to the Nature Center in Greenwich and to the Roosevelt Memorial Sanctuary on Long Island, speakers, motion pictures, the annual meeting and the final dinner, to be given Tuesday night, which will be held this year, as last, at the Hotel Roosevelt.

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Wild Bird Sanctuary U.S. NAVAL RESERVATION

By Elsie Angwin

U. S. Navy

OCCASIONALLY the objectives of a man's profession fuse with those of his hobby. An example may be cited in the wartime life of a Naval officer in command of the Naval Convalescent Hospital at Asheville, North Carolina. Captain W. A. Angwin of the Medical Corps has two major interests: the reconditioning of Naval personnel and the study and protection of wild song birds. In this article we indicate how these two became conjoined.

From his own experience Dr. Angwin knew what refreshment, what amusement, what wholesome exercise of wits and body may be derived from the observation of bird life. Why not, he asked himself, utilize these values for the physical and mental reconstruction of bluejackets and marines who, during their convalescence,

need diversion from memories of war and its ravages? Conversely, if an interest in birds could be aroused this would not only be an asset to Service men wherever their duty might call them but it would also carry over, to some degree, into the peacetime, when a more constructive attitude toward bird conservation might reasonably be expected to result.

The hospital environs are well adapted to both purposes. The building, formerly an inn, stands on the crest of a wooded ridge surrounded by forested mountains. Adjacent are lawns, gardens and other cultivated areas. Immediately in front, the land plunges down through virgin woods of deciduous trees to a shadowy ravine, where a rill trickles under thickets of native shrubs and tangles of wild vines to join the Swannanoa

River. Woods and ravine are penetrable by secluded roadways and numerous paths. Splendid bird country. In fact, the whole Asheville region is rich in bird life. Many varieties reside here throughout the year; others come for either the summer or the winter seasons; while a wealth of beauty and song flows through during the spring and autumn migrations. After studying the possibilities and in his capacity as officer in command, Dr. Angwin declared the thirteen acres of government property to be a bird sanctuary. The next step was to interest the patients committed to his charge.

That took a bit of quiet maneuvering. While winter prevailed, the men who frequent the occupational therapy workrooms designed and made signs to proclaim the sanctuary. Next, they built suet-feeders to hang on nearby tree boles, tempting the downy woodpeckers and nuthatches nearer to the windows. Then came production of feeding trays and stands, the most ingenious of these being an adaptation of a cast-off muffin-warmer with a tilting top. When provided with vanes and mounted in the garden this *chef d'oeuvre* swung with its back humped to the wind, sheltering cardinals and titmice instead of muffins and rolls.

As the storms lessened, carpentry took a new turn: nesting-shelves and boxes. One of these last was so handsomely executed that it gained the name of "Biltmore House" after the chateau on the Vanderbilt estate. Above its entrance hole a life-sized bluebird was painted in full color. Evidently bluebirds enjoy a touch of architectural elegance and recognize their own image; anyhow, within two days after the box was hung on a tulip poplar the birds moved in and have raised three young ones successfully. Over more rustic models the

flickers fought starlings and were frequently worsted, while an interested audience of seamen cheered.

With milder weather, the patients got out-of-doors and helped to construct a sunken garden. There, now, a fountain bubbles through a much-utilized bird bath to a pool where lilies float and goldfish swirl. There, too, both men and birds may feel at ease while they watch one another.

After that—spring! Gardens, woods, thickets, tangles and ravines all rang with mating songs. Everywhere birds were to be seen carrying their nest materials or, a bit later, ferrying bugs and worms to feed their nestlings. In order to draw the men further afield and to provoke some reference to textbooks in the hospital library, Dr. Angwin started a contest to discover who could find and identify the most nests. This led to much rambling and peering and discussion. When on June fifteenth the contest closed, its winner, an Aviation Machinist Mate, 3rd Class, had mapped the reservation and charted fifty-two nests. While some were unidentified, the most were correctly named. Two belonged to warblers: a Kentucky, which built on the ground in the depths of the ravine, and a chestnut-sided, into whose nest wisps of cleansing tissue were adroitly interwoven with grasses. In some nests eggs were found; in others, nestlings; and excitement prevailed among observers when the young wood thrushes left their nests and a fledged redstart was seen popping through the honeysuckle and ferns. Later, the used nests were collected and identified with name tags to form an exhibit.

Interested friends have provided several textbooks including the Audubon's "Birds of America," Peterson's, invaluable "Field Guide to the Birds," Pearson's "Birds of North

Carolina," and a few others. Welcome and useful is the *Audubon Magazine*, whose subscription was a gift from a National Audubon Society member. Also, a pair of binoculars has been

made available. And thus, although the gains cannot be measured and may be modest, the dual purpose of benefit to man and to bird is, to some extent, being achieved.



GI JOES have probably had a better introduction to nature during this war than ever before. In out-of-the-way training camps and wilderness battle stations they have been able to watch wild creatures.

This month, gift subscriptions have been sent to hospital libraries by the following:

Three subscriptions by Mrs. George H. Webb of Providence, Rhode Island; one, each, from Marianna Neighbour of Syracuse, New York, Ella Niehans of Chicago, Illinois, and Alice Porter of Cleveland Heights, Ohio. Mrs. J. H. Lorenz of Burlingame, California, sends two memberships to Dibble Hospital in Menlo, California, in memory of Captain Fred S. Hinze.

Let's bring a better understanding of this re-discovered nature to our wounded boys now convalescing in hospitals. Not only that, but something of home—the salt spray of Maine, the sea birds of California, the pine woods of Georgia, the mule deer in the Black Hills and desert nights. They need reading and pictures which will take their minds from the memories of battle to the beauty and value of the America they so valiantly defended.

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The Changing Seasons

By Ludlow Griscom



THE effect of the weather on the breeding season of birds is usually much less direct than on the migration; it takes marked extremes to injure birds with certain special requirements. Thus, a hot, dry May had a profound effect upon the spring migration, but a hot, dry summer was a matter of indifference to the nesting birds in the Northeast. A cool, wet summer in Minnesota and Utah had some unfavorable results, and flood damage is reported from Missouri, Minnesota and Utah. On the other hand, cool weather in northern California prevented the country from drying up as early as usual, and produced an especially favorable season. A spring drought in Manitoba dried up many breeding areas for ducks, heavily occupied last year.

People often fail to realize how brief indeed is the stay of many of our commonest summer residents in the North, especially those species wintering in tropical America. In Massachusetts, for instance, an early and successful season found the woods silent and 75 per cent deserted by July 23. Many individuals of the commonest warblers, swallows, swifts and the least flycatcher had already departed southward. A colony of 75 pairs of bank swallows at Newburyport was not complete until May 17; only one pair remained on July 15, and there were none on July 23.

Field work of major importance in the breeding season is the determination of genuine increase or decrease of certain species, naturally of particular concern to the National Audubon Society. Allowance must

be made for inevitable cyclic changes, which apparently all living animals are subject. Thus the decrease of certain common tern and skimmer colonies on Long Island N. Y., may mean nothing; the increase of the least tern on Long Island and its decrease in northwestern Florida this year may have no long range significance. Another factor in judgment is to avoid conclusion from data which are too local. Students should note Mr. Mayfield's remarks about the cedar waxwing in Ohio, where its fabulous abundance in one section of the state and its marked rarity in others raises an interesting paradox. It could undoubtedly be explained with a sufficient knowledge of its local requirements and variation in conditions, but it proves nothing as regards increase or decrease as a whole.

Two birds, where the evidence to date adds up to "uncertain," are the wood duck and woodcock. The latter, badly reduced in the winter of 1940, has undoubtedly increased but in a spotty manner; it has shown a marked increase the last two seasons in New England, but the Ohio-Michigan and Middle-Western Regions report decrease. The decrease of the wood duck in New England began with the destruction of breeding holes after the 1939 hurricane and the bird has slowly increased since with a marked comeback this year; its slow but steady decrease is reported in the mid West and is attributed to the open season.

There seems no question of the continued increase of the prairie horned lark in the Atlantic states or that of the upland

plover in parts of the mid-West. They are, however, in two very different categories. The plover represents the comeback of a greatly reduced population in a normal part of its range, but the lark has extended its range eastward, and now breeds in a great territory where it was unheard of thirty years ago.

The great black-backed gull once again deserves comment in this column, a northern marine species which has spread southward and inland. This year we have the first breeding record for Rhode Island and the first summering record for the Great Lakes. The flocks of non-breeding birds summering on Cape Cod now exceed the counts made in mid-winter!

The movement of southern species northward continues apace. The mockingbird bred in Maine and near Chicago. The gnatcatcher is nesting in southeastern Min-

nesota and the American egret nested in Wisconsin.

The movement of western species eastward also continues. The western meadowlark is now commoner than the eastern in certain sections of Illinois, and the Brewer's blackbird bred near Chicago. Far eastern records of the white pelican were mentioned in the last article; additional late spring records have been received for Ohio and Long Island. The avocet is reported as a spring straggler in eastern Minnesota and Ohio.

An extraordinary abundance of mackerel off Cape Cod, Massachusetts, was presumably caused by an in-shore drift of plankton crustacea. This presumably explains the presence of blackfish, fin-back whale, all three shearwaters and that great abundance of petrels which occurred off Chatham on July 3.

NOTICE

Due to increased costs of paper, printing and distribution, we find it necessary to put Section II (containing five Season Reports, a Breeding Bird Census and a Christmas Count) on a self-supporting basis, and will, therefore, make an additional charge of \$1 per year for them.

Members, when renewing membership in future, will need to include an extra dollar if they wish to receive Section II. Subscribers, as distinct from members, may renew subscriptions in future for the National edition of the magazine (without the 2nd Section) for \$2 per annum (\$2.25 foreign), or for the Regular edition (with the 2nd Section) for \$3 per annum (\$3.25 foreign).

Individual copies of the Season Report 2nd Section may be purchased at 15¢ each; of the Breeding Bird Census Section at 25¢; of the Christmas Count Section at 40¢. Our supply of past issues of the Breeding Bird Census and Christmas Count Sections has been entirely exhausted.

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WANTED—BACK NUMBERS, SEC. II .

Our stock of Christmas Bird Count (Section II of January-February issue) and of Season Reports (Section II of March-April and May-June) has been exhausted. If you have copies which you do not want, we shall appreciate having them returned to us.



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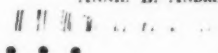
Dear Sirs:

"The Wildlife Community" by Richard H. Pough is excellent. Mr. Pough never mentions things in reference to today, only; he includes yesterday and tomorrow, too. If only this fighting world could embrace this universal feeling about nature and mankind!

I enjoy A. M. because it never goes stuffily technical—if it does go technical, it's such interesting reading that you end up feeling brighter than before—and for amateurs like myself, that's a good feeling!

ANNIE B. ANDRESEN

Bronx, N. Y.



Dear Sirs:

As an amateur who has learned much from A. M., may I hand you a bouquet (of wild flowers, naturally) for its continued excellence.

DONALD S. HETHERINGTON

New London, Conn.



Dear Sirs:

Perhaps some of your readers would like to enter the Walker Prize Essay Contest for 1944-5. The subject this year is mammals. I shall be glad to send the rules governing the contest to anyone making the request.

MARGARET BAKER
Acting Director

N.E. Museum of Natural
History, Boston 16, Mass.



Dear Sirs:

A. M. is keeping me well informed about the birding news back in the states, and probably because of my not being there, I am enjoying it even more than when I was a civilian. Every other month I look forward to its arrival. I liked John Wanamaker's "Is This the Army?" particularly.

OLIVER L. SMITH

Somewhere in the Pacific



Dear Sirs:

Our Garden Club sponsored recently, a Junior Audubon Club for the third and fourth grades in our local school. The experience has made my enthusiasm run so high that I want to recommend this kind of project to bird and garden groups everywhere.

The school permitted me to conduct a formal class for 45 minutes twice a week for six weeks. The classes were built around the six bird leaflets which you send to Junior Audubon Clubs but expanded to include flowers, trees and other animals associated in the same habitat, and with emphasis on the interdependence of all living things. The

teachers—Miss Doris Lyman and Miss Anna Mae Weaver—were most cooperative and one or the other remained in the room during the lectures and discussions, while they helped coordinate the work by permitting the children to make bird notebooks in art class and to write bird stories in English class. Our grand finale was a picnic and field day at which time I had as leaders six friends, all of whom had a good working knowledge of the various fields of nature.

During our six weeks of study the change in attitude evidenced by some of the boys and girls was quite remarkable since some of them had very little awareness of nature when the course began. The type of boy who, through ignorance, was at first inclined to destroy bird nests soon became the staunchest champion for their protection. As for the time and energy I put into this work as representative for the Brecksville Garden Club, I wish to say that I have never received greater satisfaction from any previous effort on my part.

MRS. L. M. HOSTETLER

Brecksville, Ohio

Dear Sirs:

The May-June issue just arrived and I have already read it from cover to cover. My eight months of association with Don Eckelberry in California made me realize that he is an artist of exceptional ability; and now he couples it with a magnificent style of descriptive writing. Let's have more articles by him.

The article by Paul H. Baldwin was also very welcome, as many of the birds he described I have been seeing myself, out here in the Pacific. My C. O. during recruit training was hardly as cooperative as the one in "Is This the Army?", but now that I'm on overseas duty every shore leave brings new ornithological experiences which I hope to be able to tell about soon.

HOWARD L. COGSWELL

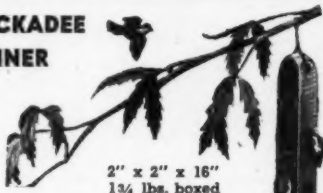
Somewhere in the Pacific

Dear Sirs:

I was glad to see Walter Harding's delightful article on Thoreau in your July-August number. Any appreciation of Thoreau as a writer on birds always rings my bell, and I hope this article will start others to exploring his "Journal" or at least reading his "Notes on New England Birds."

However, I want to protest against the acceptance of the portrait you published as one of the youthful Thoreau. As bibliographer of Thoreau and in other connections I have studied his portraits, both genuine and spurious, I should like to record my firm belief that this picture never was intended to represent him. Sophia Thoreau did a portrait of her brother John and is said to have done one of Henry, but I know of no reason why she should have confined her efforts to her two brothers. To establish this picture as the work of Sophia does

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not prove that it is a portrait of Henry. In my judgment, it does not resemble Thoreau in an important feature, even allowing for the change that attend growth from youth to maturity. The earliest known undisputed portrait of Thoreau, the drawing by Rowse done in 1854, when Thoreau was thirty-seven. This has often been reproduced but more familiar are the Maxham daguerreotype of 1856 with the Galway beard. Let anyone compare this portrait with either of those and judge for himself. The eyes, eyebrows and nose show striking differences. The eyes of this portrait are dark and cannot be the known blue-gray eyes of Thoreau, and the nose is straight without a suggestion of the hook and the drooping end of Thoreau's nose.

FRANCIS H. ALLEN

West Roxbury, Mass.

AUDUBON

Living Memorials

THESE are few normal human beings who have not on occasion dreamed of a memorial which they would like to leave to posterity . . . sometimes in their own names, but more often to keep alive and to share with others the memory of a member of the family circle or of a friend.

GOOD fortune in the choice of such a memorial attends all those who have found pleasure in an understanding of nature, who have known and understood the birds of America, the creatures of the wild, and the great American outdoors. For they have an opportunity to reflect this interest by establishing a living memorial, which so long as life endures on this earth, will make its manifold contributions to all mankind.

THE program of the National Audubon Society presents a number of unusual opportunities for the establishment of such living memorials. The officers and directors of the National Audubon Society will be glad to confer with anyone contemplating the establishment of a memorial, and will also welcome an opportunity to discuss the Society's needs, now or in the future, which may be met either through current gifts or bequests.

BEQUEST FORM

I hereby give, devise and bequeath to the NATIONAL AUDUBON SOCIETY, in the City of New York, in the State of New York,

the sum of dollars
(or otherwise describe the gift), to be used for the general purposes of said Society.